

**Book One:  
Introduction & Basics of  
Alliance Based Construction**

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**How to Form and Manage  
an ALIGNED CONSTRUCTION ENTERPRISE**

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## The Productivity Alberta Team

This book is a collective effort joining the wisdom of many into one short book.

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## A. INTRODUCTION

### Measure Twice, Cut Once

Every carpenter's apprentice is taught "Measure Twice, Cut Once." This old adage means many things at many levels. The young apprentice quickly learns to "plan ahead," and "haste makes waste."

In a larger sense, "Measure Twice, Cut Once" is a metaphor for how a complex construction project should start. And "measuring" does not just mean "using a measuring stick;" in the context of complex construction, it means:

- assess and understand *why* we are doing things;
- *what* is the best way to do it;
- *who* is the end use customer and what do they really need to be effective
- *who* composes the best team to do the construction
- *who* will be operating the facility or site when completed
- *where* should certain practices be applied that will produce great results
- *When* must this project be completed and what are the consequences if it is not built on time
- *How* can the Owner, Designer, Contractor, and the Trades work better as a team to produce a highly profitable, win for each of the stakeholders.

### Survival of the Fittest is a Hoax

Talk to many seasoned veterans of the construction industry, and they will say that, over the years, the industry has become less productive, less built on good personal relationships that enable good communications and problem solving, more transactional (in other words, don't pick up the phone, just send an email), contracts have double, tripled, and then quadrupled in size, and the experience is less enjoyable

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Some shrug this off saying, after all, “It’s dog-eat-dog world out there;” or this is just an example of a survival of the fittest – when the going gets tough, the tough get going.” (after all isn’t this what Darwin said?)

## The Consequences of Adversarial Relationships in Construction

Time has not been kind to the construction industry. Despite technological innovations, productivity has actually declined over the last several decades, and the trade has continued to be rated among the least attractive to graduating students. Job turnover is often extremely high, indicating low job satisfaction.

Many have asked, “Is there a better way?” The answer is yes, but it takes a shift in thinking and some new skills to make it work. The cooperative approach goes under a variety of names, such as *partnering*, *alliancing*, and *integrated project delivery*.

In this series of books, we have taken the best principles, best processes, and best practices from highly successful collaborative approaches toward construction, and unified them into a highly effective, systematic ‘best of breed’ methodology.

## What Darwin really said about the Source of Competitive Advantage

If you, think Darwin said this is a dog-eat-dog world where ‘survival of the fittest’ reigns supreme, you are not alone. Most people have this belief. However, Darwin thought humans were much more enlightened than the rest of the animal kingdom. Here’s what he said about the human species:

**Reason:** Of all the faculties of the human mind, Reason stands at the summit. Hardly any faculty is more important for the intellectual progress.

**Imagination:** Without the higher powers of the imagination and reason, no eminent success can be gained.

**Conscience:** Of all the differences between man and the lower animals, the *Moral Sense of Conscience* is by far the most important. It has rightful supremacy over every other principle of human action.... The moral faculties are generally and justly esteemed as of higher value than the intellectual powers. “As you would have men to unto you, do you unto them likewise;” ...is the foundation stone of morality.

**Cooperation:** Man is a social being... Endowed with social instincts take pleasure in one another’s company, [humans] warn one another of danger, defend and aid one another in many ways.... these instincts are highly beneficial to the species.

**Courage** is the most noble of all the attributes of man, leading him without a moment’s hesitation to risk his life for that of a fellow creature; or ... to sacrifice it for some great cause.” No man can be useful or faithful to his tribe without courage. This quality has been universally placed in the highest rank.

**Teamwork in Competition:** When [groups] come into competition, the [group] with the greater number of courageous, sympathetic, and faithful members... will succeed better and conquer the other. Selfish and contentious people will not cohere, and without coherence nothing can be effected.

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## A Better Way

### The Design-Bid-Build Illusion

The traditional way to build is for an Owner to go to a Designer to draw up plans, then present a Request for Proposal (tender offer, etc.) to a series of three or more contractors to see who comes in at the lowest price.

The contract is then given to the low price bidder, who, hopefully, will finish on time, and produce quality to pass code.

Unfortunately, in the real world, seldom does it work out according to plan. Too often 'Design-Bid-Build' turns sour and becomes 'Bid-Bully-Build-Breakdown-Blame.' What was supposed to be the low cost approach cost more; sometimes a lot more.

### Why Shift to a Cooperative Approach?

Simply put, adversarial approaches are more costly in two ways:

First, an adversarial process introduces high levels of non-value added work in the form of redundancies, fighting, protection, and useless energy trying to win in a win-lose game.

Second, adversarial strategies sap the human spirit, focusing energy away from teamwork, innovation, and problem solving, giving credence to blame, fault finding gossip, and defensiveness.

The disadvantages of an adversarial system are magnified dramatically when there is a lot of complexity and uncertainty in the project -- problems become more complicated, the ability to get resolution more convoluted, relationships more contorted, and ultimately the result: Project is Over Time and Over Budget

### Collaboration versus Competition

You may be asking "aren't human beings highly competitive? Doesn't cooperation go against the competitive spirit? Don't we get more efficiency when we compete?"

These are all very legitimate questions, and they speak to the 'duality' of humans. The reality is that we are *both* cooperative and competitive. The essence of human existence is to get the cooperative-competitive balance right to produce high performance.

For example, every great sports coach knows that the team that wins focuses all its cooperative spirit *internally* to produce *teamwork*; and focuses all its competitive spirit *externally* against their opponent. When the competitive spirit is focused inside the team, players fight each other, egos get in the way of performance, and the team loses games.

And the reason team sports like hockey and football are so popular is because we as fans get to engage both our competitive and collaborative spirits when watching as spectators.

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Bottom Line:

Cooperation beats combat in the long run. A cooperative approach is good for productivity, profitability, and labour well-being.

Strategic alliances are the most effective means of shifting construction from an adversarial to a collaborative approach.

## When to use Alliance Based Construction

[from AECOM Manual] Alliance contracting is a form of project delivery often used for complex projects which require speed of delivery and cost certainty. Usually owners seek outstanding alliance outcomes through an integrated team characterised by aligned goals and commercial drivers, innovative thinking and collaborative behaviour. This is reinforced through a commercial framework set up to create a win-win outcome by aligning the commercial interests of constructors and designers with the owner's project objectives, with risk collectively assumed by all participants and rewards determined by collective performance.

Even though alliances have been around for more than ten years, there are still project owners and participants in the engineering and construction industries who share a keen desire to know and understand more about alliancing and why it is a successful delivery model for certain types of projects. The opportunity to provide industry with an experience-based educational tool and practical guide was evident and was a key driver in producing this book.

Alliancing is currently being used on projects worth many billions of dollars in Australia and New Zealand and is now a relatively common form of project delivery. While Alliance Based Construction is not suited to all projects, increasingly it is being seen as a Value For Money model because it:

- suits *complex projects* where *risks are difficult to define and opportunities for innovation are large*
- suits projects which require close management of:
  - *uncertain or changing scope,*

## When *Not* to Use an Alliance

Alliances are not the right vehicle for the adversarial Design-Bid-Bully-Build approach to construction.

Squeezing the vendor for the lowest price possible is not the alliance way of getting prices and schedules under control.

If you believe that the only way to gain advantage is to squeeze vendors, play your cards close to your chest because contractors are the enemy and can't be trusted, and hire an arm of lawyers to concoct an iron-clad, bullet proof mountain of contracts, then stop reading any more, put this book away, and don't waste your time in a game that wasn't designed for you.

If, however, you know in the deepest reaches of your head and mind that there must be a better way to do business that isn't so arduous, painful, and frustrating, then this approach is made for you.

And, most importantly, it is profitable.



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- *potentially rapid cost escalation*
- *time to completion*
- *stakeholder relationships which are often highly visible to the public*
- provides cost management through a *rigorous target cost* development process
- encourages innovation as a means to smarter, *value-based solutions*
- facilitates the incorporation of *community, stakeholder and environmental drivers*
- facilitates speed of delivery through an *integrated owner/design/construction team*
- *attracts resources* in a tight market and labour is tight.
- *promotes innovation* at all stages of construction
- holds the promise of finishing projects *on-time, on-budget, or better*

From the Partner (Designer/Contractor) perspective the alliance process provides an opportunity to build deep knowledge about the Owner and the Owner's drivers, the full complexities of the project/s and the project delivery landscape.

The opportunity to strengthen relationships with the owner is obviously part of this process. The result is that it optimises the Partners' ability to provide the most appropriate services offer, including assembling a 'best-for-project' team to deliver the works. All of this enables the Partners to deliver smartly, efficiently and in a cost-effective manner by getting it right from the start.

Alliance Based Construction is increasingly being seen as a sustainable delivery model that is continuously improving and evolving to suit Owner and project requirements, and which is deepening its Value For Money proposition as more and more alliances are successfully being delivered and more people in the industry have exposure to alliancing.

## Alliance Based Construction in Australia

Australia's recent period of sustained economic growth, its expanding urban populations and the strong focus on infrastructure development have all contributed to the rise in the number of alliances.

Providing infrastructure quickly, effectively managing costs and also delivering significant community, environmental and social legacies, have all become key drivers for owners. Alliancing provides a project delivery vehicle to do all that.

Another feature that owners sought through the alliance model was to provide a project delivery framework that continually pursued innovation and encouraged outstanding or game-breaking project outcomes in complex situations where a Business As Usual (BAU) outcome was considered just adequate. More traditional delivery methods can tend to constrain the pursuit of innovations to distinct phases, thus reducing the potential to achieve truly outstanding outcomes. This is particularly the case in traditional delivery methods where participants work separately (thus restricting integration and open communication) and when the risks are allocated rather than collectively assumed.

The cultural and behavioural principles that underpin the alliance model are being transferred back into the general engineering and construction industry as well as back into parent and owner organisations.

Many believe this to be a signpost to the future of our industry, and a welcome evolution away from the traditionally

## B. WHAT IS AN ALLIANCE?

The first distinction to understand is that an alliance model is a cooperative approach to construction, distinctly different from the adversarial approach that hallmarks much of construction today. The adversarial model is distinguished by strong armed negotiations, conflict between the major stakeholders (Owner, Designer, and Contractor), poor communications and coordination between the stakeholders, legal contracts that often get in the way of getting the job done the best way, and high costs for insurance and litigation.

The cooperative approach is still highly competitive, just as the competition for positions on a sports team is highly competitive, but once on the team, cooperation is the essence of good teamwork. As on a sports team, when the team wins, everyone wins.

### Defining Alliance Based Construction

The term “strategic alliance” is used by many organizations to encompass a broad spectrum of relationships. For the purpose of this book, our definition of an alliance in the construction industry is:

- a close, collaborative relationship between an Owner (private or public sector) and two or more entities (including at least a Design Team and a Construction Team)
- created for the joint delivery of one or more capital works projects (typically commercial, infrastructure, or industrial)
- characterised by:
  - a mutual commitment to operate in a high trust, high performance, high innovation manner
  - unanimous principle-based decision-making on all key project issues
  - a fair, pre-agreed gain share/pain share regime where the rewards of outstanding performance and the pain of poor performance are shared equitably among all alliance participants
  - an ‘everyone wins or loses together,’ no fault, no blame and no dispute agreement between the alliance participants (except in very limited cases of default)
  - an integrated project team selected on the basis of best person for each position.
  - a governance system that enables rapid problem resolution and ‘best for project’ guidance

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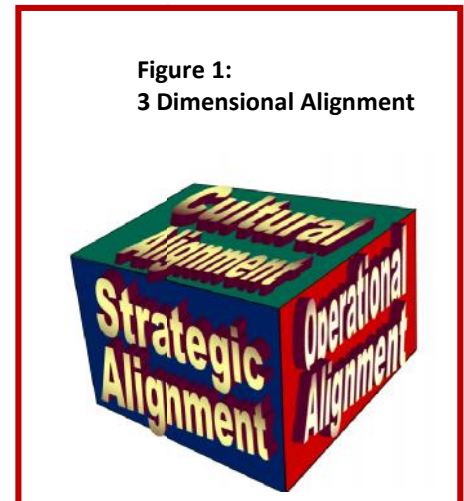
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There is a big difference between defining something and creating something. While this definition is technically correct, if one tries to create an alliance from this definition, failure will result. Why? Because an alliance is a 'living organism' that represents the dynamic interplay of many forces and functions. A simplistic definition may be good for a theoretical understanding, but it doesn't build a powerful "design structure" to produce high performance results.

## Designing an Alliance

The real power of the alliance framework is that it integrates strategic advantage, human behavior, and high performance operations into its 'systems design.' In designing an alliance, first think in terms of a '3-dimensional alignment' (see Figure 1) of:

1. *Strategic Drivers* that are pushing on the partners to think and act in a manner that collectively creates Competitive Advantage. The alignment of *Strategic Drivers* ensures the cast of characters are working in the same direction and understand the fundamental meaning and purpose the owner has in mind. If and when the Strategic Drivers change, the entire alliance must now shift to stay in tune.
2. *Culture* of human interactions that create great chemistry among people. The alignment of the *Culture* ensures that critical issues like trust, decision making, communications, leadership styles, values, protocols, and reward systems are compatible so that people can work together in teams, and create together to innovate and solve problems rapidly without blame and discord.
3. *Operational Functions* that must produce results. The alignment of *Operations* means that the human delivery systems and the mechanical functions can be implemented in the field in a highly effective manner.



It is important to understand from the outset that these three dimensions are crucial to long term success. This 3-Dimensional Alignment framework is highly successful because it integrates strategic, human, mechanical systems into a highly effective, holistic approach to doing business.

Supporting these three dimensions, must be a compatible cast of legal/contractual/financial instruments, as well as a fair and effective means of governance.

In Book Two, the Best Principles, Best Processes, and Best Practices are described in detail that enable the 3-Dimensional Alignment to materialize.

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## Strategic or Tactical? The Nuances of Collaborative Contracting

The word “strategic” is not just a fancy word to make something sound important. Strategic means that you will be operating a way that will powerfully affect your “long term destiny.”

There are two broad categories of collaborative arrangements in the construction industry: strategic alliances and tactical cooperation.

*Strategic alliances* are long-term, multi-project alignments that produce a powerful competitive advantage, impact each organization’s long-term destiny, and have significant consequences when they are not successful. The idea of “strategic” implies that:

- the trusting relationships formed between the key stakeholders (Owner, Designer, Contractor, Sub-Contractors, Trades, etc.) are intended to last *beyond* a single project;
- the learnings and innovations derived from one project will become the foundation for the next projects
- the bonds of cooperation will extend well into the future, enabling a synergy to evolve that produces higher profitability for the companies involved, higher customer satisfaction, and greater well-being for the employees

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The term “alliancing” evolved in Australia from North Sea energy projects, taking many of the cooperative “partnering” approaches to a new level.<sup>1</sup>

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<sup>1</sup> **Partnering** was developed by Dr Charles Cowan in the United States and differs from *alliancing* in that its relational base is not expressed in contractual terms. Even though partnering did include, for the first time, a focus on people, it did not really align people with underlying commercial drivers because it had no contractual imperative itself. Partnering relied on a charter, or agreement, signed by all parties involved, expressing their desire and intent to work collaboratively on a project. In partnering, there exists a commitment between the client and the contractor(s) to cooperate in order to meet separate but complementary objectives

**Alliancing**, on the other hand, is a form of relationship contracting whereby the commercial and collaborative arrangements are formally expressed in contractual terms. A great deal of time and effort goes into developing the commercial framework which is carefully constructed to align all parties involved – Owner Participant and Non-Owner Participants (Designers & Contractors) – around a common goal, and then reinforcing that through appropriate commercial drivers that provide the financial incentives for good (but preferably outstanding) project performance. Achievement of outstanding results is facilitated by a contractual framework which eliminates the ability for parties to blame each other and focuses effort on the resolution of problems and delivering innovation. In essence, alliancing took Dr Cowan’s partnering concept to the next level, embedding the relationship-based aspirations within the contractual/commercial framework.

**Strategic Alliances** is a term that evolved in the North America and Europe to enable two or more companies to collaborate on a long term (hence *strategic*) basis without either one acquiring the other. Strategic alliances have been codified with a deep understanding of principles, processes, and practices that, when used by disciplined practitioners, produce very high rates of success. Alliances evolved from a unsophisticated idea in the middle 1980s into a highly effective form of business interaction that, because of its systems integration and manner of using the differentials in culture, enables innovations to flourish. Strategic alliances have been used effectively in a wide variety of industries and are supported by the Association of Strategic Alliance Professionals, which has over 3,000 members in 20 chapters across the world.

**Alliance Based Construction** builds heavily on the key principles, processes, and practices from both *Alliancing* and *Strategic Alliances*, as well as innovations from *Integrated Project Delivery*, human behavior, collaborative innovation, and systems integration.

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### **It's an Alliance—Not a “Partnership”**

The term “partnership” has serious legal implications in some countries which link one firm’s obligations to legally binding commitments on the part of the partner, and vice versa.

Recently, one very large U.S. corporation told one of its suppliers it wanted to engage in a cooperative partnership with it. The supplier made major capital investments based on this commitment. When the market changed unexpectedly, the large corporation canceled its orders, and the supplier sued based on the supposition that a partnership existed. The court upheld its claim.

Use the term *alliance* or *partnering* instead of “partnership.”

*Tactical cooperation* is a project-oriented relationships tend to be shorter term, more project oriented, focused on a single objective, and formed with a specific end point in mind.

One form of tactical collaborative relationship is referred to as “*partnering*,” which means we will work together in a cooperative, trusting manner for the *duration of this project*.

*Project-oriented* cooperation often forms the foundation of a longer-term strategic alliance, if and when the members decide to regard each other from a longer-term perspective than just a one project or a single joint venture.

Both types of collaboration can be valuable in achieving business outcomes; however, the focus in this book will be on strategic alliances. Since much is at stake in a strategic alliance, a more rigorous and systematic approach to ensuring success is required. Tactical alliances can benefit from the same systematic approach, but due to their short-term nature, they may not warrant the investment in time, energy, and resources, nor do they necessarily require it to achieve their short-term goals.

The power of the Strategic Alliance approach is not just in its methodology, but in the way it takes a “systems” view of the entire construction cycle, and integrates human and engineering systems into its fabric.



## C. EVOLUTION OF ALLIANCES IN CONSTRUCTION

### Development and Evolution of Alliances Based Construction (ABC)

Cooperation in construction is not new in the construction industry. (see Figure 2). In a past age, communities got involved in barn-raising together. (see Figure 3). Even though constrained by “low bid” regulations, government agencies, have found ways to produce dramatic results by cooperating closely with high integrity, high innovation construction companies (see Figure 4 )

In the US and Canada, companies have joined forces in alliances to repair hotels in the wake of hurricanes in the Caribbean and to build massive sports stadiums costing over \$1 billion.

#### The Australian Experience

One of the most important and dramatic breakthroughs in the ABC model has been achieved by our neighbors ‘down under.’ Faced with horrible costs and labour pressures in a rapidly expanding economy in the early 1990s, Australian government and business joined together to develop a better means of construction in infrastructure and industrial expansion.



**Figure 2: Empire State Building 1931**

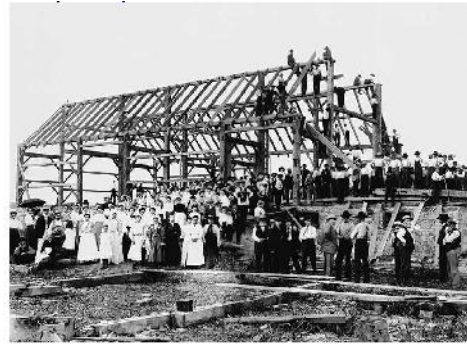
The building of early skyscrapers was highly collaborative. The Empire State Building was completed in 1931 in only 14 months, including laying foundations, in an era of steam shovels and hot rivets, and in spite of the fact that many of the construction techniques were not available before the project started. (It needed a railway to be built at the construction site to move materials quickly, new logistics to move bricks, and a new method of construction of elevator banks.) Working together the crews erected 14 ½ floors in ten working days -- steel, concrete, stone and all. In the end, the Empire State Building came in on time & under budget.

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Based on the collaborative model first tried on North Sea oil and gas projects in the early 1990s, the Australian ABC model has been used with enormous success in hundreds of projects, and a substantial amount of learning has been made available from that wealth of experience.<sup>2</sup> Strategic Alliances were successfully pioneered in America in the middle 1990s in commercial construction.

(adapted from AECOM Manual) All facets of the Alliance Based Construction (ABC) delivery model are continuously evolving and maturing. However, there is no doubt that alliances are getting bigger and more challenging as clients observe that this model has the potential to deliver in every facet of large scale construction, including commercial, industrial, and infrastructure projects.



**Figure 3: Barn Raising in Lansing, north of Toronto c: 1900. The task, conducted mostly by volunteers, took between 1-2 days, depending on the size of the barn. Preparation, planning, and teamwork was essential to enable rapid accomplishment.**

Everyone in this picture had a role in the Barn Raising, from supervision, setting the mortise and tenon joints, wielding tools, hauling lumber, and ensuring the construction team had food. This tradition is still carried out today in rural areas and in urban centers by organizations like Habitat for Humanity.

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<sup>2</sup> The Australian construction industry in the 1980s was characterised by an increase in contractual claims and disputes. This fuelled litigation, and increasingly aggressive and adversarial relationships. The cooperative attitudes necessary to complete construction projects on time and budget were being jeopardised. In 1989, a joint Australian task force was established, comprising senior representatives from the major industry groups was established to jointly develop proposals for changes in construction industry practices which would lead to improved practices and better quality work, with the over-riding aim of achieving a reduction in claims and disputes. Strategies that would lead to more efficient management and performance of projects through various project stages were described in the report, *No Dispute - Strategies for improvement in the Australian building and construction industry*, (National Public Works Council, and National Building and Construction Council joint working party, 1990). which led to the introduction and ultimately widespread use of the collaborative project delivery method in Australia called alliancing.



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**Figure 4: 1994 North Ridge Earthquake's impact on Santa Monica Expressway**

This picture depicts just one small segment of the Santa Monica Expressway in Los Angeles after being hit by a massive earthquake. Most of the highway is eight lanes or more. It is one of the most complex highway systems in the world. The State of California's Department of Transportation (CalTrans) calculated it would normally take at least two years to complete reconstruction:

- one year for design planning & contract award
- one for actual construction

Time was of the essence. It was calculated that the economic cost of the highway being out of commission would be at least \$1,000,000 (million) per day. Caltrans offered a new approach, called 'A+B' Contracting:

Contractors submitted bids based on projected construction costs, "A," and the estimated number of days, "B," they would need to reopen the road. (The state set a ceiling of 140 days) Each day of "B" was valued at \$200,000, the estimated direct cost to the public of having the highway closed. The bidder with the lowest total costs (A&B) won the contract. The contractor's guaranteed payment, however, was only for the "A" amount. Then, for every day the firm came in early on its time estimate, it was to receive \$200,000. For every day it went over, it had to pay \$200,000.

Contract approval took one day, as opposed to the typical 30 to 60. The winning firm was northern California-based C.C. Myers, which pledged to complete the project in the allotted 140 days. In fact, working collaboratively with all the subcontractors, the designers, and the government, Myers reopened the freeway in just 66 days (including demolition, reconstruction subject to new 'earthquake proof' standards), earning an additional \$14 million in incentive pay on top of the \$14.9 million it had bid in construction costs.



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Aware of the costs involved in people and time, some participant organisations (owners, designers and constructors) have set up specialist alliancing groups to lead, coach and participate in alliances. This has been a natural evolution for constructors and designers who have responded to the very high 'conditions of entry' standards into the market through the alliance bid and selection phases. There are also excellent alliance facilitators and coaches in the market to assist teams across the whole spectrum of alliancing from bidding through to delivery.

## **Putting Theory into Practice in Australia**

The primary driver of the early Australian alliance projects in the oil and gas industry was to achieve a more equitable sharing of risk for complex and uncertain projects between the Owner and the Partners (Designer & Contractor) They also provided a welcome solutions-focused, relational-style project delivery alternative for an industry that had traditionally relied on more adversarial styles of project delivery.

The North Sea oil and gas industry first used what is now called alliancing in the 1990s to deliver major projects. Companies such as British Petroleum employed this form of contracting to move away from traditional master-servant relationships between owners and suppliers, to a more cooperative peer-based relationship characterised by mutual trust and respect.

Based on the UK experiences, Australia's first alliances were the Wandoo B Oil Platform for Ampolex (Mobil), and East Spar Oil and Gas Project Alliance for Western Mining Corporation in 1994. These alliances were very successful and delivered outcomes that were highly valued by the owners.

In contrast to the oil and gas industry the primary drivers of the early public infrastructure alliance projects were to introduce innovation and creativity to situations where there was no clear solution and to deliver outcomes in timeframes that were significantly constrained.

A catalyst milestone project in public infrastructure was the \$465 million Northside Storage Tunnel Alliance for Sydney Water Corporation from 1997 to 2001. The project needed to be finished before the 2000 Olympic Games in Sydney to minimise the risk of sewage overflows to the harbour. It was a breakthrough because Sydney Water selected their alliance partners using a competitive interview-based selection process that focused on competence, capability, experience, delivery approach, alignment with Sydney Water's needs, commitment, and the best people for the project.

The up-front costs for proponent teams bidding and winning alliances can be higher than some other forms of contract. However, the counter argument (often unstated) is that while the initial

# Introduction & Basics of Alliance Based Construction

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costs can be higher, they are more than compensated by the fact that potentially project delivery costs are significantly reduced, and back-end project costs (such as litigation) that occur in adversarial contracting are virtually eliminated.

## The ABC Bidding Process

In the ABC model, the Owner makes an up-front commitment to work closely and collaboratively with the Designer and Builder (called 'Partners'), creating a cooperative environment with an incentive structure that ensures the Owner and Partners (Designer and Builder) will all be rewarded if they beat the budget (often there will be incentives for beating the schedule). This reward structure can also be extended to sub-contractors, the trades, and others who contribute to 'beating the target.'

There are two different options for bidding in ABC (but both are ultimately cooperative)

### Option One: Cooperative Value Model

**Step One – Selection:** Rather than bidding on a project, the Owner pre-selects the best, most innovative, most cooperative team (Designer, Contractor, Subcontractor) at the outset, using a sophisticated selection process that takes into consideration: trustworthiness, reliability, teamwork, and innovation.

**Step Two – Cost Estimation:** Based on plans and specifications (which may only be 15% complete), a 'business as usual' cost estimate is generated that becomes the Target Cost Estimate (TCE). The TCE is based on typical costs from the region on similar projects. The game-plan is to use teamwork, innovation, and coordination to 'beat the target.'

**Step Three – Risk/Reward Structure:** Together, the Owner/Designer/Contractor Team creates a Win-Win-Win structure for each of the partners to work together to 'beat the estimate.' Often an incentive is also offered by the Owner to beat the time estimate as well.

### Option Two: Competitive Value Model (used more by Government)

**Step One:** Owner issues a tender offer (Request for Proposal) to 3-5 (or more) pre-qualified Design-Build Teams. A Risk/Reward structure is proposed that creates a 'reward pool' to incentivize collaboration in achieving on-time, on-budget delivery, or better.

**Step Two:** Design-Build Teams submit proposals emphasizing their quality, collaborative skills, innovations, and capability to beat the numbers and reap the reward.

**Step Three:** Owner selects based on the most qualified team, the lowest cost and the highest likelihood of beating the numbers. (Remember, the Designer & Builder, if they beat the

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numbers, get paid twice: the amount they bid, plus the bonus represented by the reward pool)

(from AECOM) The bidding process in ABC tends to include:

- team preparation workshops and site visits
- writing and producing quality proposals (sometimes using specialist design and production houses)
- key personnel taken out of the business to write bids, and then, if short-listed, to go through the selection workshops
- costs of the specialist alliance coaches and facilitators
- senior management commitment – especially those who are proposed for Alliance Leadership Team (ALT) and key project roles.

Of course, after all this up-front investment there is no guarantee of being the preferred proponent! (And, after such an exhaustive process, it hurts to lose.)

For all participants achieving valued outcomes will be a sustained focus and as a consequence, alliancing will continue to evolve.

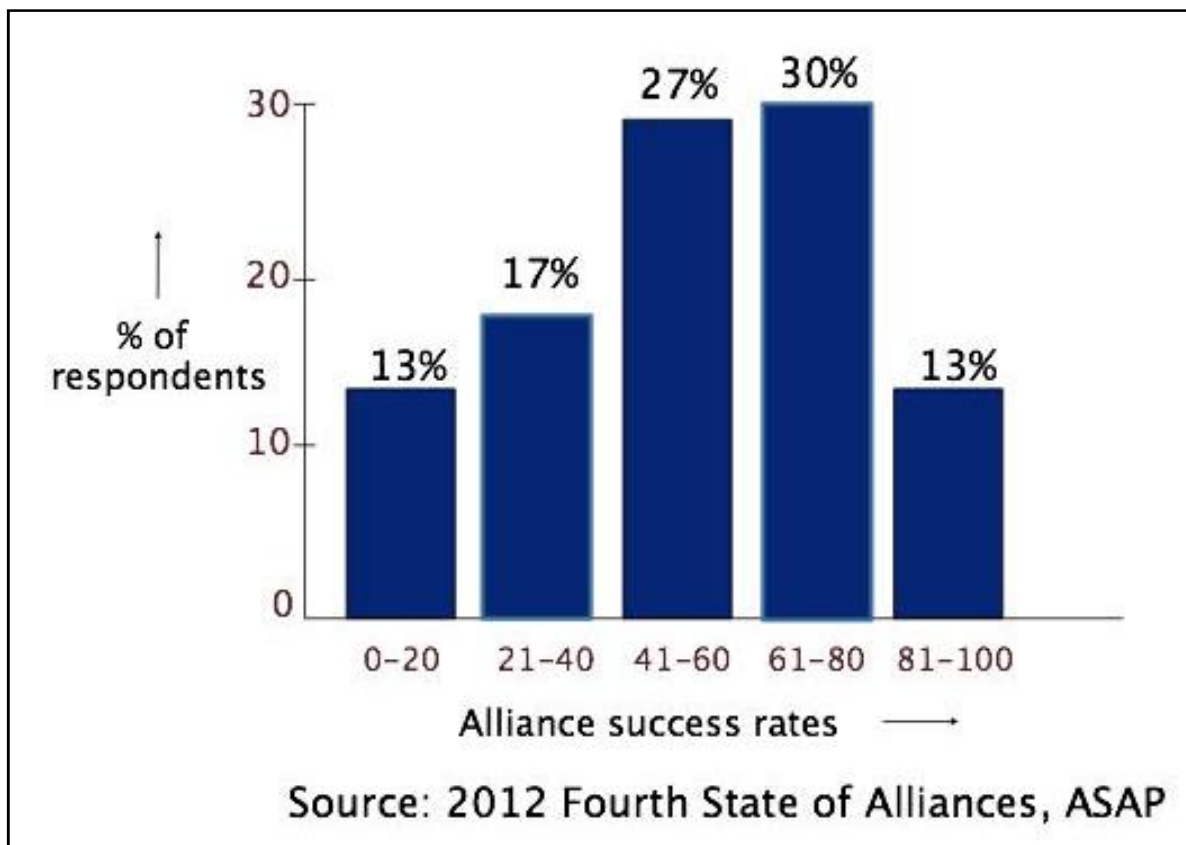
As the ABC model has continued to evolve, its foundations and drivers had been challenged and tested numerous times, and each time the model becomes stronger.

## D. ALLIANCE SUCCESS RATES

Although the definition of an alliance is relatively straightforward, successful alliances are the result of a complex set of processes, cultural attributes, and competencies. The overall performance of alliances depicted in Figure 5 is testimony to how difficult managing alliances can be, particularly for the uninitiated and unprepared.

According to the ASAP 4th State of Alliance Management Study, the average success rate of alliance portfolios was 53 percent in 2011. Some companies (13 percent) have success rates of 80 percent or

Figure 5: Alliance Success Rates



higher; others (also 13 percent) have success rates of 20 percent or lower.

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It is important to understand precisely the main difference between the high- and low-performing companies:

According to the study the high-performing companies follow alliance Best Practices. They have implemented more of the alliance management tools and processes that are discussed in this book than the low-performing companies. One of the underlying themes of this book is that it pays to invest in alliance management. In the chapters that follow, we will describe the best practices that have been found to help companies achieve high alliance success rates.

## **Beware of “DEALS” and Deal Makers**

Those companies that consistently show poor results typically under-invest in alliance management. They tend to regard alliances as “transactions,” just like contracts, licenses, or acquisitions. This transactional approach views all such economic interactions as “deals,” driven by the terms and conditions in a legal contract. During this “deal making” process, each party negotiates for the best deal they can achieve, often “keeping their cards close to their chest,” while creating distrust through posturing. What’s more, often those who will be closely involved in the ongoing management of the future alliance are left out of its formation, to be brought in only after the “deal” is done.

This deal-making approach is often taken by people who are well versed in acquisitions and licensing; it tends to relegate the actual management of the alliance to an afterthought. Despite the strong body of evidence that the application of alliance best practices produces significantly higher alliance success rates, the transactional-deal approach lingers on. We encourage alliance managers to bring the best practices outlined in this series of books to their “deal” teams and strongly advocate for their consistent application.

Great alliances offer great potential not because they are “deals” but because they are *collaborative relationships*. Thus an alliance professional is not primarily a “deal maker,” but rather a *relationship architect*. The connection between relationship and architect doesn’t work for me. It seems we should either say “relationship architect” or change “relationships” to “collaborative structures.”The architecture of alliances is composed of key principles, practices, strategies, structure, systems design, management processes, roles, interrelationships and interfaces, conceptual frameworks, critical issues, early warning signals, vital signs, and alternate pathways and contingencies.

As an alliance professional, you will be called upon to design the architecture of a collaborative venture. This will not be a “cookbook” process—instead, as an architect, you will follow a set of best processes, practices, and procedures that will greatly enhance your success and be applicable to virtually any collaborative venture you design, regardless of the form it takes.

### **It's NOT the Art of the Deal**

Alliance disadvantages often come from an organization's haste to create an agreement to get a "deal" done—rather than design an alliance that can produce profitable results. Deal-driven transactions occur because, in their haste to consummate an agreement, companies do not review all of the essential alliance principles as outlined in this book.

It is critical that alliance practitioners do not ignore basic considerations such as core competency of each player, chemistry, operational styles, and the strategic direction that each organization has laid out for itself.

Many alliance professionals are very careful NOT to refer to alliances as "DEALS," because a "deal" refers to a "transactional exchange," which is very different from a "strategic relationship." Traditionally a "deal" is consummated at a closing with a fixed, strict, legalistic contract, whereas an alliance is an ever-evolving set of interactions based more on vision and trust than strictly on the terms and conditions of a contract. Referring to an alliance as a "deal" confounds the underlying realities involved in designing a successful alliance.



## E. CHARACTERISTIC OF WELL STRUCTURED ALLIANCES

Regardless of industry or other factors, a well-conceived alliance will have a set of common essential characteristics. Any alliance missing these characteristics will likely be beset with problems. Use the characteristics listed in the table below as a checklist to assess current and prospective alliances. Each is described in more detail in the following chapters of this book. These ten essentials are the fundamental building blocks of all alliance architecture. Elimination of, or inadequate attention to, any of these characteristics will reduce the likelihood of alliance success.

<b>The Ten Characteristics of Successful Alliances</b>
<p><b>1. Strategic Alignment:</b> Every company is defined by its relationship to itself, its customers, and its competition. Critical market forces compel the company to be strategic: to act, react, or not act at all, as it thinks best. In an effective alliance, the driving strategic forces for both companies are complementary, and there is a long-term strategic outlook. Alliances are not seen as “deals”; they are long-term relationships formed in pursuit of strategic objectives. Successful alliance partners have realistic expectations regarding the time it takes to build trust, structure an alliance, and manage it to the realization of a strategic outcome.</p>
<p><b>2. Synergy:</b> Complementary strengths will yield strategic synergy. The two allies should have more strength when combined than they would have independently. Mathematically stated: <math>1 + 1 &gt; 3</math>. Mutual advantage must exist, contributing to a powerful value proposition that benefits each partner and ultimately the end customers.</p>
<p><b>3. Great Chemistry:</b> Your company must have the managerial ability to collaborate efficiently and effectively with another company, and they must have an equally collaborative spirit. Chemistry is the result of positive, team-oriented, trust-filled relationships between the individual participants from both partnering companies on the alliance team.</p>
<p><b>4. Reciprocity:</b> The operations, risks, rewards, and costs of an alliance must be fairly apportioned. There is an underlying belief that success comes from working cooperatively together through sharing investments and returns, and ensuring that all metrics and rewards are aligned to reflect this win-win reciprocity.</p>
<p><b>5. Transformational Flexibility:</b> Allies must be willing to address new risks, be committed to flexibility and creativity, and be ready to transform the alliance structure in response to changing business and strategic imperatives and to take advantage of new opportunities.</p>
<p><b>6. Effective Governance:</b> Governance is a system to manage risks and performance within the alliance. Alliance governance is different from internal corporate governance in that influence and consensus are essential components for decision making and conflict resolution. Effective governance is dependent upon tight operational linkages at multiple levels within both</p>



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partnering organizations so that decisions can be made at the appropriate operating level.

**7. Trust and Commitment to Mutual Benefit:** Trust is fundamental to all relationships. Without trust, alliances fail. Trust in the personal relationships among the individuals who constitute the alliance team enables them to overcome conflict and adversity. Trust within an alliance is a faith that each organization is also looking out for the interests of the other organization and of the alliance as a whole. There is mutual agreement that each party's success is a function of everyone's success.

**8. Executive Sponsorship:** Leadership is essential to successful alliances, and leadership begins at the top with an engaged and empowered executive sponsor, or champion. Executive sponsors are ideally very senior within the organization and can promote cross-functional cooperation and engender support and buy-in to the alliance mission and its objectives at all levels of management.

**9. Joint Planning:** This is the process of translating strategic vision to reality. Joint operational planning creates the road map that derives value from the resources, commitments, and efforts dedicated to the achievement of alliance objectives.

**10. Continuous Innovation:** Innovation is a facility for bringing new ideas into the alliance and continually finding ways to adapt to evolving competitive and technical shifts in the environment, thus keeping the alliance fresh and enlivened.

Some additional characteristics of a great alliance include:

- Synergy in the relationship contributing to a powerful value proposition;
- Mutually compatible goals that would be difficult for each to achieve alone;
- Expectations of sharing the rewards and risks inherent in the relationship;
- Terms of the alliance agreement are incomplete because of future uncertainties;
- A governance structure is established to conduct joint decision-making and to deal with conflict resolution;
- Each organization is looking out for the interest of the other organization and the alliance as a whole;
- Champions are designated by the involved organizations;
- Operational unit support is achieved and aligned at multiple levels;
  - There is a long-term view to the relationship; and,
  - Joint planning is used to innovate and evolve the relationship over time.

## F. WHY ALLIANCES ARE ESSENTIAL IN CONSTRUCTION

In many ways, construction is a unique kind of business. It's very much like making a movie – every project is unique, and requires a very intricate cast of characters that must come together quickly, align on their scripts, innovate to solve unexpected problems and opportunities, and bring it all together neatly in a finished product.

Imagine, however, if you were making a movie, and the producer was at odds with the director, who was embroiled in argument with the key actors, who didn't like the set designer, who couldn't get along with the musical writers. The movie would be a disaster, run over budget, and never exceed mediocrity. So

So with the production of a building, highway, or oil sands excavation. The synergy and synchronicity between the production crews must be exquisite. This calls for a high degree of collaboration.

### Conditions that Encourage Alliances

As stated earlier, here are the conditions that give senior decision makers the cues that ABC will create the best Value For Money and is the best way to proceed:

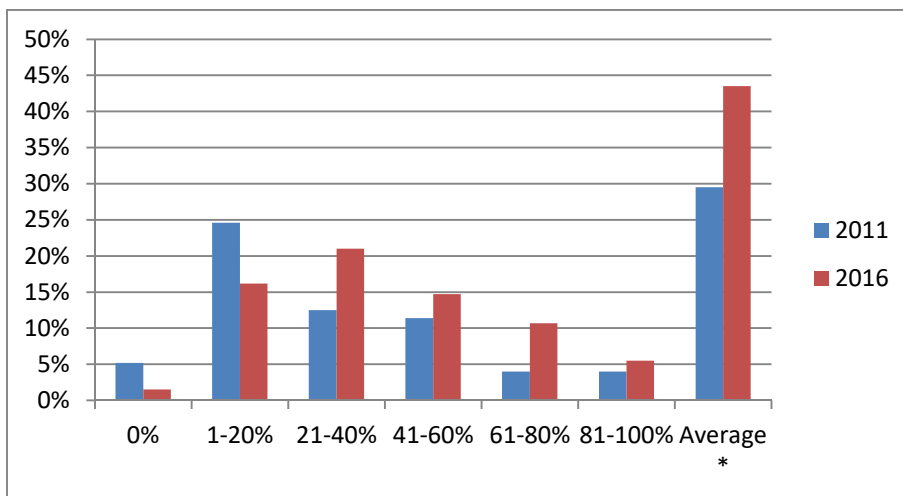
- suits *complex projects* where *risks are difficult to define*
- suits projects which require managing *uncertain or changing scope*
- provides cost management through a *rigorous target cost* development process
- encourages innovation as a means to smarter, *value-based solutions*
- facilitates the incorporation of *community, stakeholder and environmental drivers*
- facilitates speed of delivery through an *integrated owner/design/construction team*
- *attracts resources* in a tight market.
- *promotes innovation* at all stages of construction
- holds the promise of finishing projects *on-time, on-budget, or better*

### Driving Forces in the Competitive Marketplace

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In today's global economy companies must continually grow their core business, innovate relentlessly, and continue to create new competitive advantage. In the face of global competition and continuous technological invention, where state-of-the-art technology is sometimes superseded in a matter of weeks, the race may not go to the swiftest new technology, or the largest corporation, or the slickest marketing campaign.<sup>3</sup> Rather, it will be won by the team delivering the most compelling, valuable solution to everyday users.<sup>4</sup>

**Figure 6: Percentage of Value Derived from Strategic Alliances**



Source: G.

Duysters, A.-P. de Man, D. Luison, and A. Krijnen, *The State of Alliance Management: Past, Present, Future* (Eindhoven, The Netherlands: Brabant Center of Entrepreneurship, 2012).

<sup>3</sup> To do this, especially during economic ebbs and flows, companies will need to find opportunities to leverage and expand their core competencies into leading-edge markets. According to a 2011 study by Bain & Company, "Management Tools and Trends," strategic alliances figure prominently in the top twenty-five tools companies intend to leverage to invigorate growth in the unfolding economic recovery. Strategic alliances were the fifth most used tool, with a projected usage of 73 percent among the survey respondents for 2011—a 26 percent increase from 2010.

<sup>4</sup> For the fourth edition of *The State of Alliance Management*, alliance managers were surveyed and asked to provide the percentage of their organization's market value that came from alliances in 2011 and projected for 2016. The results, depicted in Figure 6 suggest that the overall reliance on alliances is increasing and becoming a critical component of companies' ability to generate revenue and sustain growth. In 2011, alliance managers indicated an average of nearly 30 percent of market value was derived through or with partners. By 2016 that number is expected to grow to 44 percent.

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## Advantages of Alliances

Alliances have the potential both to *outperform* other strategic investments and to *transform* the way companies do business by enabling the flow of innovation and high performance from all the members. By the nature of the design architecture of alliances, they enable *both* collaborative *innovation* and collaborative *integration*.

### Collaborative Innovation

There are two fundamental ways of enhancing innovation in an organization:

- trigger *individual creativity*, with the objective to have more people generate more ideas,
- and
- trigger more ideas using the *diversity of differences in thinking* to stimulate the creation of a multitude of ideas.

Alliances take advantage of the 'differentials in thinking' approach to innovation by creating a culture that nurtures the challenging of the status quo in favor of new thinking. In this manner, alliances can, if used effectively, 'engines of innovation.'

### The Multiple Faces of Innovation

Once companies move into the zone of using differentials in thinking to generate innovation, a whole new world opens up that enable eight different forms of innovation to become accessible within the alliance (see Figure 7) (the details of the power of the Innovation Engine will be explored in greater detail in Book Two, Phase Seven. )

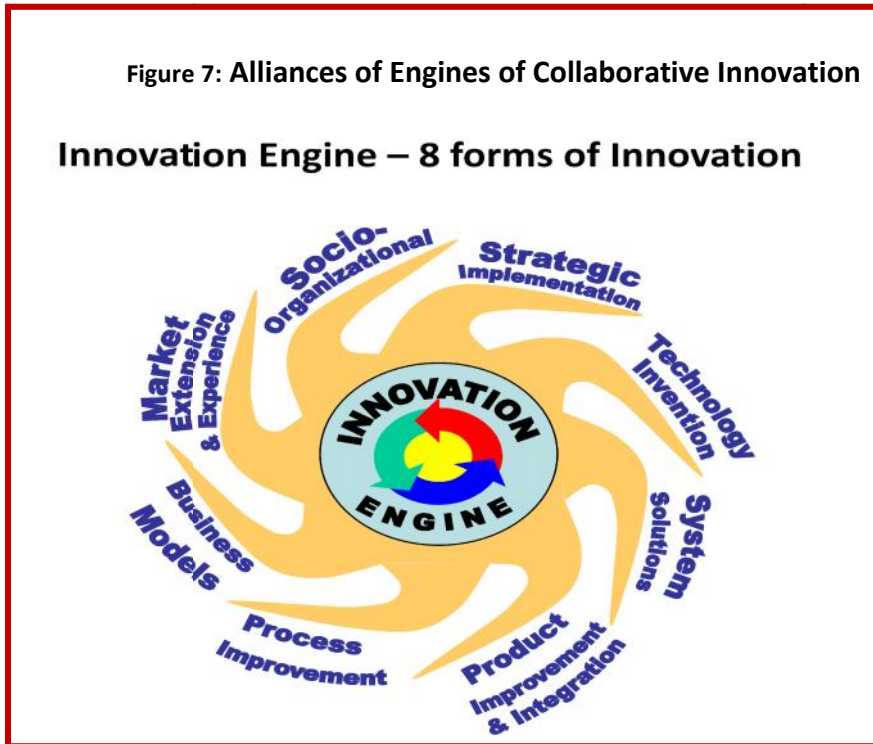
With alliance, the 'systems design architecture' enables 'differentials in thinking' to be synergistic, not destructive, and thus a source of enormous creative energy, which, in the long term translates into important competitive advantages.

We will dig more deeply into the innovation architecture in Book Two.

### Collaborative Integration

Figure 7: Alliances of Engines of Collaborative Innovation

### Innovation Engine – 8 forms of Innovation



When companies work 'transactionally' they 'bargain' for the exchange of goods/services in exchange for money. There is nothing 'wrong' with this approach, but it does not generate the flow of innovation from supplier to customer. The customer only gets what the 'bargain for,' nothing more.

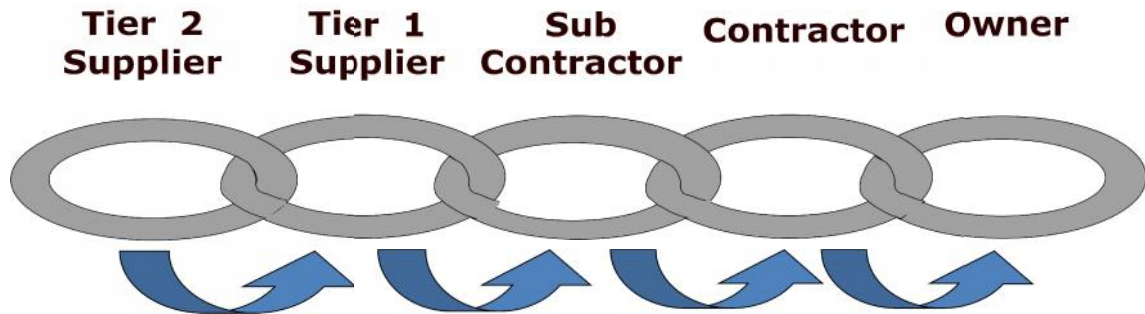
Transactional engagement between customers/owners and suppliers/designers-contractors, establishes a relationship referred to as a 'supply chain.'" (see Figure 8)

The 'chain' approach is inherently slow, cumbersome, and filled with non-value added work. A better approach is to interconnect all the organizational parts into an integrated network (like the brain or the internet) which communicates, coordinates, synchronizes, and responds rapidly. (see Figure 12 ) However, the chain is *simple* in that an organization need only deal with one link forward (customers) and one link backward (suppliers) in the chain.

When a linear chain of organizations acting transactionally shifts into a network of coordinated, symbiotic, integrated network focused on a common objective, we call this an "Aligned Construction Enterprise." (ACE)

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Figure 8: Supply Chain approach to Value Flow



Supply Chains connect suppliers to customers in a set of linkages that enable the flow of goods and services to move from one stage to another. In theory, each link in the chain is supposed to add some new value to the good or service. For example, in the delivery of an orange to a retail customer who eats the orange, the orange may go through a long value chain from the grower to a transportation company that takes the orange to a wholesale processor that polishes the orange and packages it, then sells it to a retail marketer (grocery chain) via another transportation company that brings it to a grocery store, where it is placed on a display, then sold to you the customer. At each step of the value chain, someone/organization adds value (in the form of a service) to the product.

While this supply chain approach based on transactional exchange is acceptable in simple systems, it breaks down in complex systems that have to deal with constant change and need rapid response.

“Chains” are too slow, lack a means of innovation, and cumbersome to work effectively when speed, innovation, and cooperation are really necessary. The transfer of value may have to be renegotiated every time something new is required by any member of the chain.

In an Aligned Construction Enterprise, while the alliance may *formally* be agreed upon between only with the Owner/Designer/Contractor, the alliance members expect and treat *the other members of the network* (suppliers, subcontractors, and trade unions) *as alliance partners* as well.

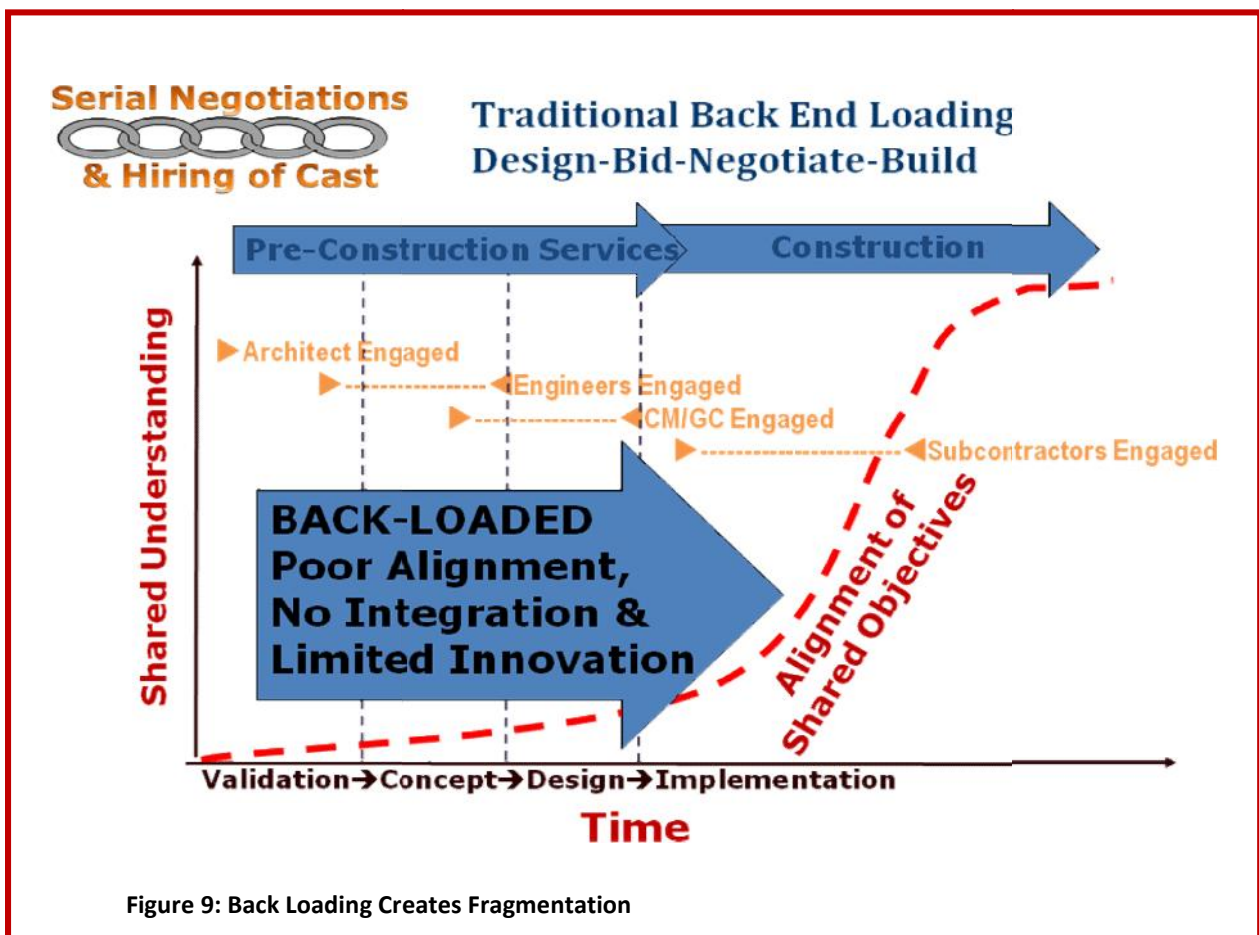
In a network alliance structure, organizations agree to share their complementary assets and strengths to create a “win-win-win” (multiple win) situation that increases value for *Owners* while increasing the rewards for *all partners involved*.

## Practical Implications of Shifting from Chains to Networks

Supply chain thinking causes projects to develop 'linearly' in a fragmented manner. Key people who have value to contribute are often left out of the design, or are consulted only after a breakdown occurs. For example, electricians who understand the interrelationships with plumbing and HVAC systems may not be involved in the design stage with architects and engineers. Consequently problems that

### Back Loading

The most obvious result of linear chains in a construction project is a condition called 'back loading,' which brings subcontractors into the project too late to have an impact on the design phase. (see Figure 9)

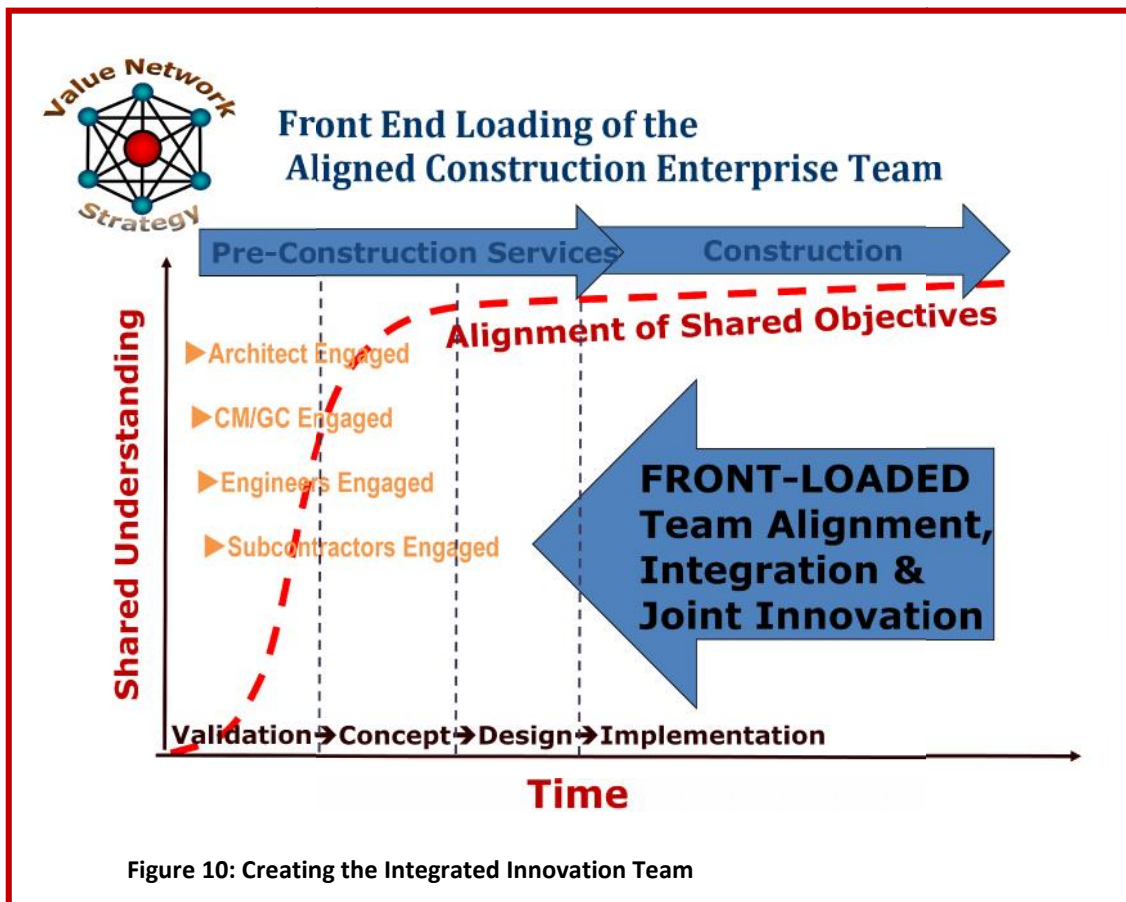




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Not only does back loading prevent the knowledge of the construction team to be stifled, but it also creates a multitude of change orders, field installation breakdowns, which attack the schedule and budget.

The objective of an integrated, high performance, high trust team is to bring the entire team on board at the outset, and get their insights into the design and delivery. (see Figure 10).



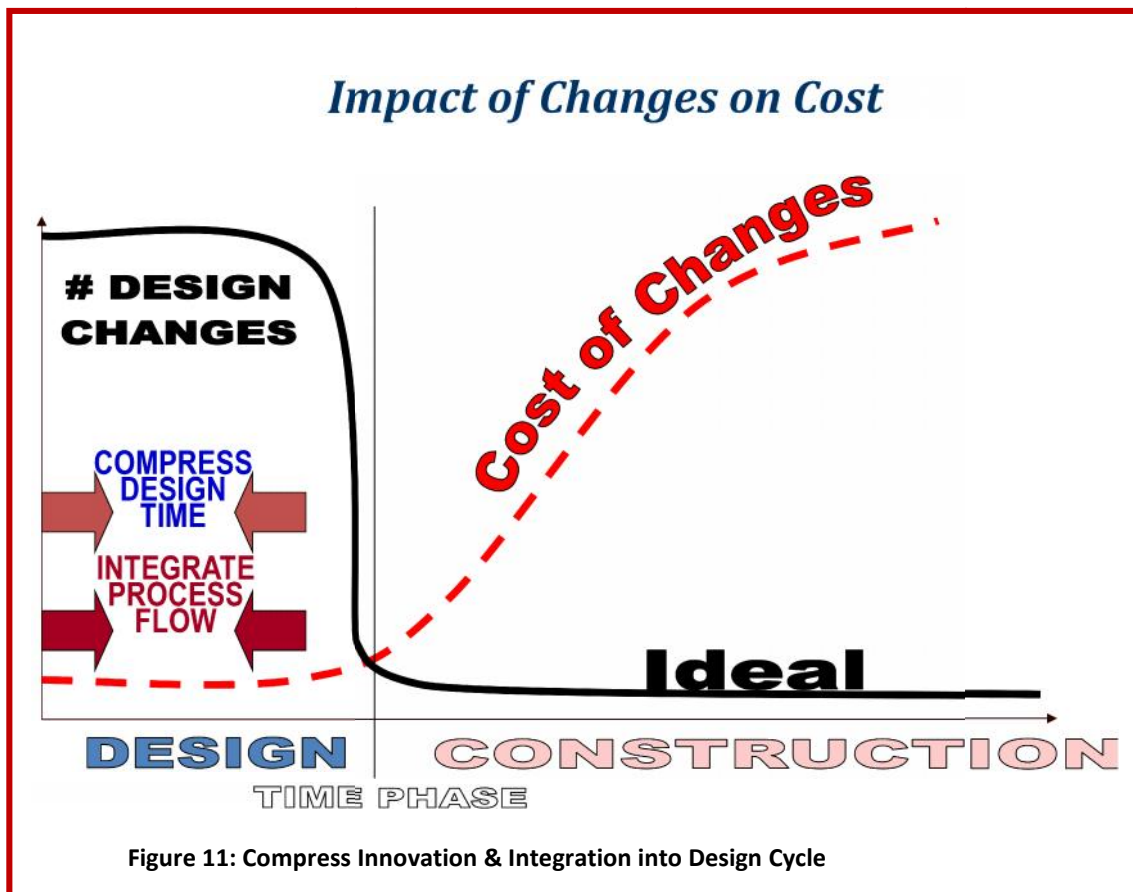
For example, by having sub-contractors and trades involved in the design stage, suggestions for better constructability, sequencing of activities, and potential conflicts can be identified and incorporated in a redesign before committing to materials and labor.

To illustrate, an electrician may suggest that conduits be laid under concrete and wiring run early in the project instead of later to enable portions of the lighting system to be installed earlier, which will provide better illumination for other trades during their portion of the build.



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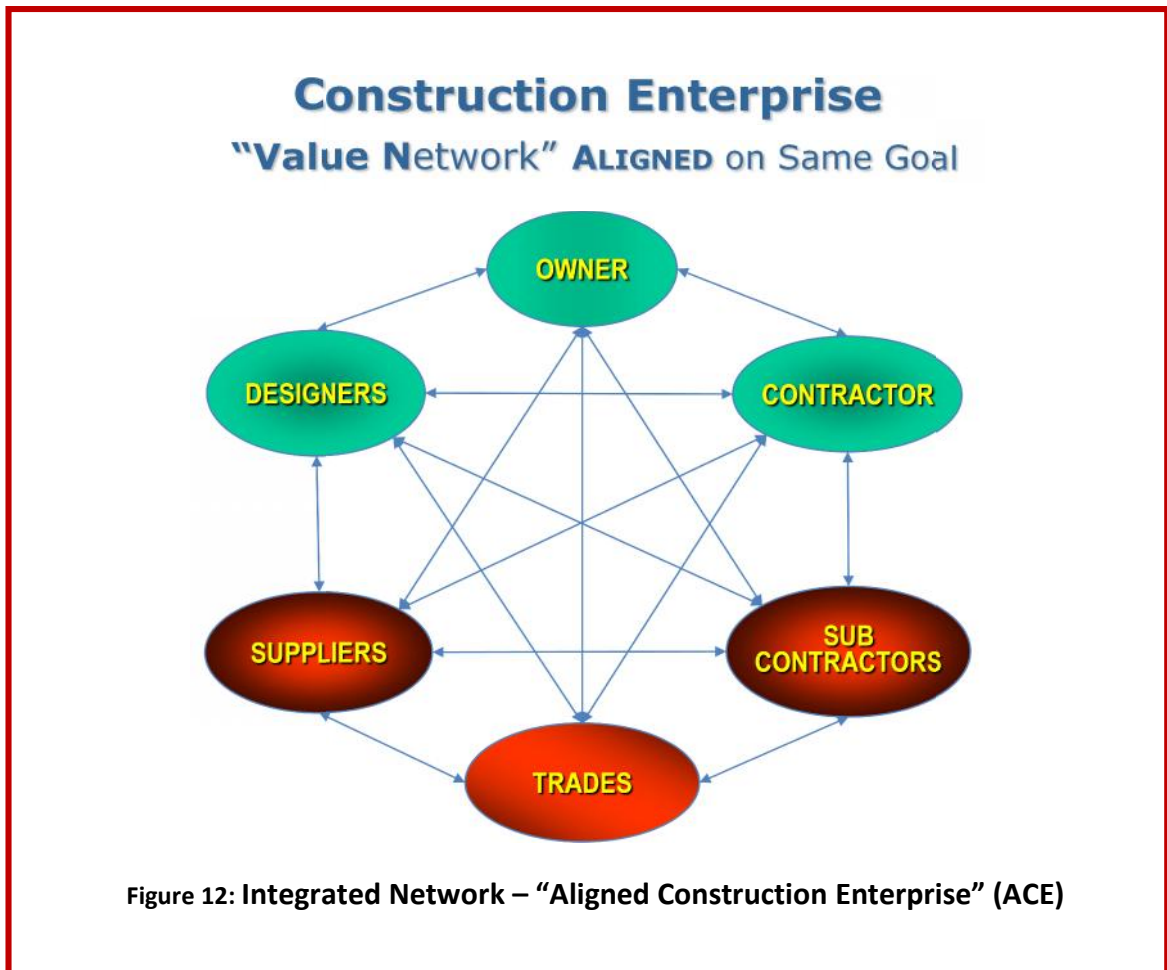
Because the cost of design changes escalates dramatically once construction begins, (see Figure 11) using the mind-power of both the design/engineering team and the construction team to suggest innovations and better coordination early in the design-build cycle, the higher the likelihood of coming in on-time, on-budget, while creating sufficient profit for all the partners to want to work together in the future. And, in future projects, since the relationships are already in place, and the learnings of one project create a step-stone for future projects, the design-construction teams are better able to improve significantly on future projects.



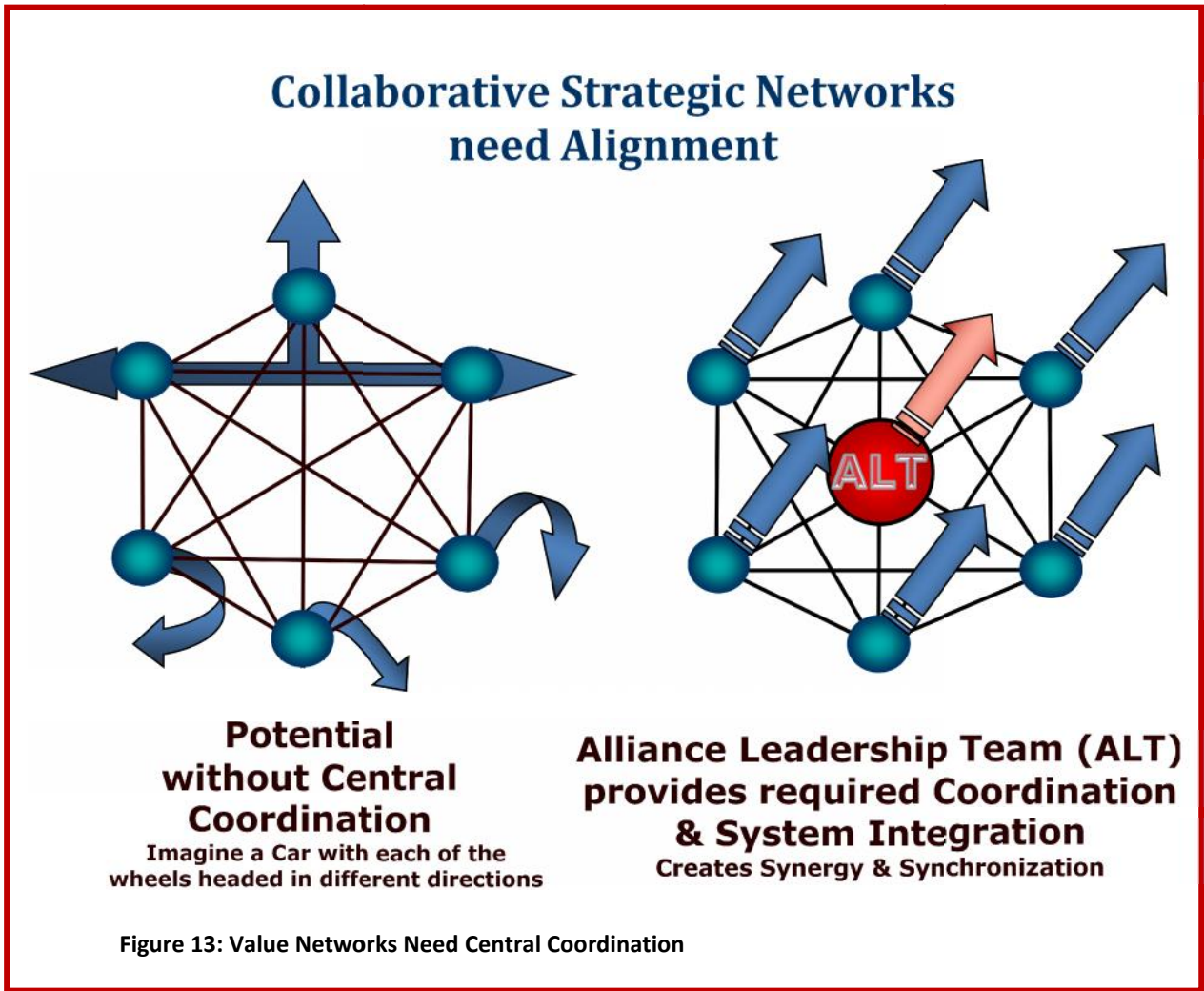
In this way, all the players become collaborative innovators early on, setting the stage for other advanced methodologies such as Building Information Modeling (BIM), GPS, Lean, Fasttime, etc. to be used effectively throughout the construction period.

## Coordination and Systems Integration

Thus, in theory, the alliance structure is able to capitalize on using the entire network's assets, knowledge, experience, creativity and capabilities effectively. In this way, theoretically, the whole is greater than the sum of the parts. See( Figure 12)



However, because each organization in the network has its own unique drivers, goals, and financial objectives, it has the tendency to actualize its future *independently, unless it makes a commitment to the ‘greater good of the whole,’*—known as the ‘*best for the project.*’ (see Figure 13) And the more members of the network, the higher the complexity, the more vital it is to pay attention to network alignment.



### Alliance Leadership Team

The founding members establish the Alliance Leadership Team (ALT) (acting through an Alliance Executive Committee) to keep the network members in alignment. The ALT equates to a board of directors charged with the responsibility to provide corporate governance and leadership to the company.

Each of the members of the ALT members should be a 'champion' of the ABC/ACE strategy; be willing to advocate the idea and the core practices to others; and to fight to protect the interests of the greater good of the whole project, while maintaining the highest standards of excellence and trust across the network.

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## Role of the Alliance Executive Committee

The Alliance Leadership Team works together in the Executive Committee to:

- Provide governance
- Set policy and delegations
- Monitor performance of Alliance Management Team (see below)
- Provide high level leadership/support to ensure full engagement of the best resources from within their own company
- Resolve issues within alliance
- Create and inspire trust, open, honest communications, & high performance
- Target Innovations
- Reduce Risks of over budget/over schedule

Members of the Executive Committee are empowered to make decisions on behalf of their parent companies based on 'best for the project'.

## Alliance Management Team

The Alliance Management Team acts as the *systems integrator* for the entire network of value-added providers. It is this feature that enables the network to become an Aligned Construction Enterprise.

The AMT's role is to:

- Deliver project objectives
- Day-to-day management
- Provide leadership to the wider team
- Try to resolve all alliance issues
- Ensure that the problems typically encountered in similar projects are avoided (see Figure 14)
- Access required resources that are either embedded within the alliance members or are missing but essential to success

## Increased Complexity requires increased

### Causes of Productivity Declines

Numerous studies have isolated a number of causes and contributing issues for poor project results and the major cost and schedule overruns for Canadian oil sand projects. Here is an example contributed by Elliot (2005):

1. Lack of experienced owner and contractor sources
2. Overall quality of owner and contractor management capabilities
3. Ineffective organizational and alliance structures for mega projects
4. Inappropriate delegation of owner responsibilities to contractors
5. Lack of clear definition of lines of authority and management responsibilities
6. Lack of discipline and ineffective control of project scope
7. Complexities of major expansions to existing operating plants
8. Customization of owner specification requirements
9. Level of project definition and proximity not well understood
10. Lack of familiarity with the northern Alberta climate, safety requirements, environmental constraints, governmental regulations, construction practices
11. Scarcity of qualified craft workers, high labour costs, inconsistent productivity
12. Many completing mega-projects affecting resources and labour availability
13. Ineffective contractual arrangements and lucrative contracting environment
14. Ineffective material management plans and premature field mobilization
15. Inappropriate management influence of cost estimates to meet economic hurdles and ignoring project reality
16. Ineffective project control systems and project development practices
17. Lack of discipline and consistent application of project code of accounts to allow effective control and collection of actual costs
18. Lack of owner front-end estimating capability and project control personnel
19. Lack of appropriate risk analysis expertise
20. Lack of owner historical project systems and databases which reflect northern Alberta conditions.

**Figure 14: Example of Why Large Scale Oil Sands Projects fall behind**

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## Systems Integration

The more the number of members of the network, and the greater the complexity of the project, and the more intense the risks and unknown factors, the more important the systems integration role.

In smaller, shorter term, less complex projects, the ALT/AMT function can be performed as an ancillary task of the leaders of the each organization's management.

However, in long-term, high risk, complex projects, like those in the Oil Sands, the systems integration role becomes even more important. Any "missing" capabilities in the system will be magnified and cause the system to malfunction, which will drive higher costs and missed deadlines. In Figure 14 are listed a number of the weaknesses that are endemic to large scale oil sands projects. The role of the systems integrator is to get in front of these problems, and direct attention and resources to limit their impact. In this way, projects can stay on-budget, on-time, and show ample productivity gains.

In large-scale projects, the Alliance Executive Committee should be seeking *full-time* professional systems integration to add more value to and to fill in any weaknesses and 'missing' elements that are not the purview of any of the partners.

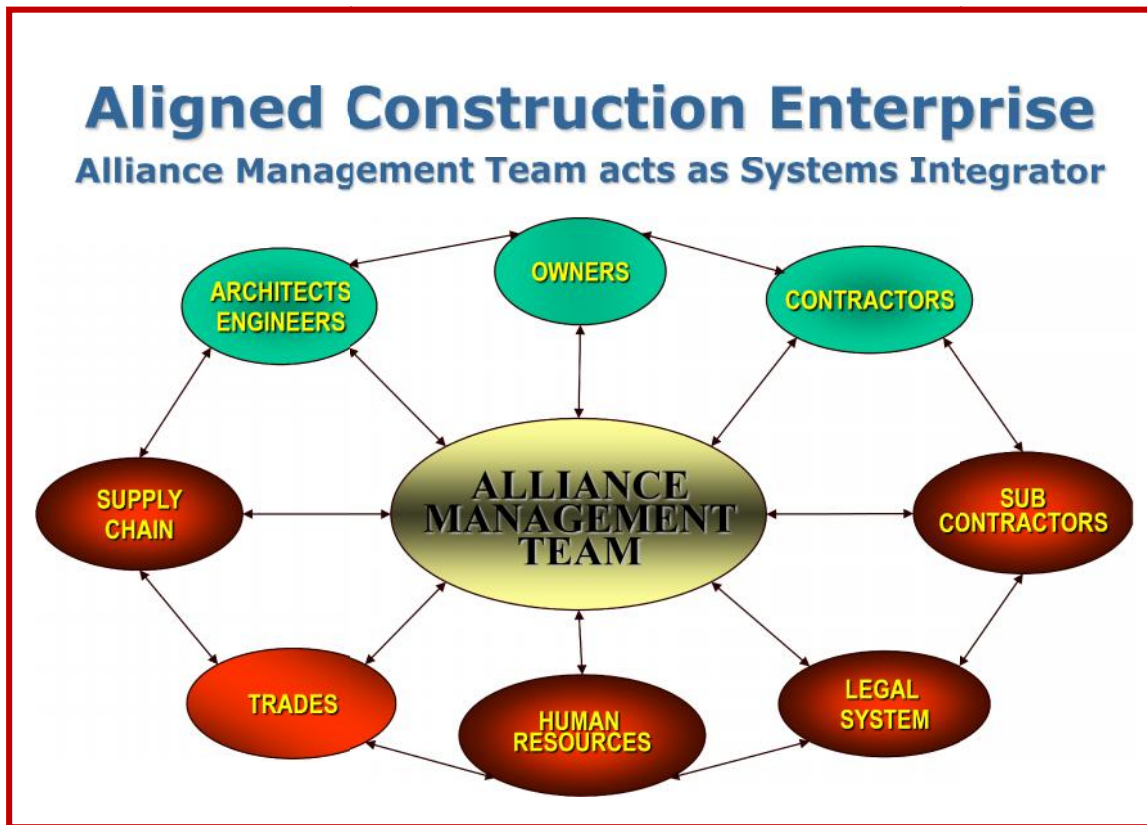
Further, long-term projects can change dramatically over the course of time as corporate policies change, governmental regulations and royalties change, people change, and technologies change. As these changes occur, the alliance must *adapt, evolve, innovate* and *realign*. The *systems integration* role is central to this adaptation and realignment process.

The more impactful the list of missing pieces, the more important it is for the Alliance Leadership Team to bring in professional systems integration management, who can also hire other expert resources to assist in providing skillsets such as Lean Construction, Data Management, Human Resource recruiting, or other competencies the network needs to function at full force. (see Figure 15)

It is the existence of two factors that truly distinguishes the Aligned Construction Enterprise:

- Shifting from a Supply Chain perspective to a Value Network perspective, seeing every node on the network as a creator of value.
- Operating the project from a "systems integration" frame of reference where the system is in a dynamic state of evolution .

This agility in meeting business challenges can become a competitive advantage to an organization that becomes alliance savvy. Because alliances are flexible nature, they are more easily rechartered or reconfigured if conditions/circumstances change.



### Issue of Control

Many managers perceive a lack of control as the largest disadvantage of alliances. The traditional 'command & control' hierarchical model of leadership is ineffective in alliances.

Actually, alliances can be controlled, but the concept of alliance control is very different from the classic style of control through hierarchical power and authority. Alliances are managed through shared control and acknowledgment of common interests. Alliances exercise control through:

- Alignment of:
  - Inspiring vision, value, and trust
  - High-performance operational processes
  - Empowering metrics and rewards
- Coordination and communications
- Creative adaptations and continuous innovation
- Governance structures that make continual adjustments to the changing competitive environment and resolve operational issues in a fair, win-win manner.



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Some believe that alliances are cumbersome and slow to respond to problems. But the ability to correct problems quickly is more a function of trust, chemistry, and good governance, as we shall see. By ensuring peer-to-peer functional reviews and empowering employees closest to the problem, companies can resolve issues quickly in alliances.

Legal conflicts often arise when you lose trust in your partner and problems are not rapidly resolved. The adage that has survived the test of time among alliance professionals is: “If you have to pull the contract out of the drawer to resolve an issue, then the alliance is failing.”

### **Not all Companies are Great Alliance Partners**

The idea of an Aligned Construction Enterprise, while wonderful in theory, can only be carried out in practice by organizations and people who have developed a strong inner culture that emphasizes collaboration. Companies that are rigid, hierarchical, or dictatorial make poor alliance partners.

## G. TEAMWORK & TRUST ESSENTIAL

Trust is the foundation of all collaborative enterprises. Trust is the spirit of teamwork and the essence of collaborative innovation. Without trust, organizations perform poorly, have low productivity, and are unable to generate any semblance of human motivation.

Every authority on alliances, partnering, Integrated Project Delivery, and Lean management will proclaim the importance of trust to the achievement of success.

Alliance Based Construction is deeply rooted in a trust 'architecture' that ensures trustworthiness in the key alliance membership. The multi-dimensional framework is represented in Figure 16.

### High Levels of Trust Enable:

- Very High Performance
- Greater Innovation, Creativity & Synergy
- Expansion of Possibilities
- Enhanced Problem Resolution
- Faster Action/Implementation and...
- Lower Transaction Costs
- Ability to Sustain Synergy
- **RESULTING IN HIGHER EFFICIENCY, PERFORMANCE, & PROFITABILITY**

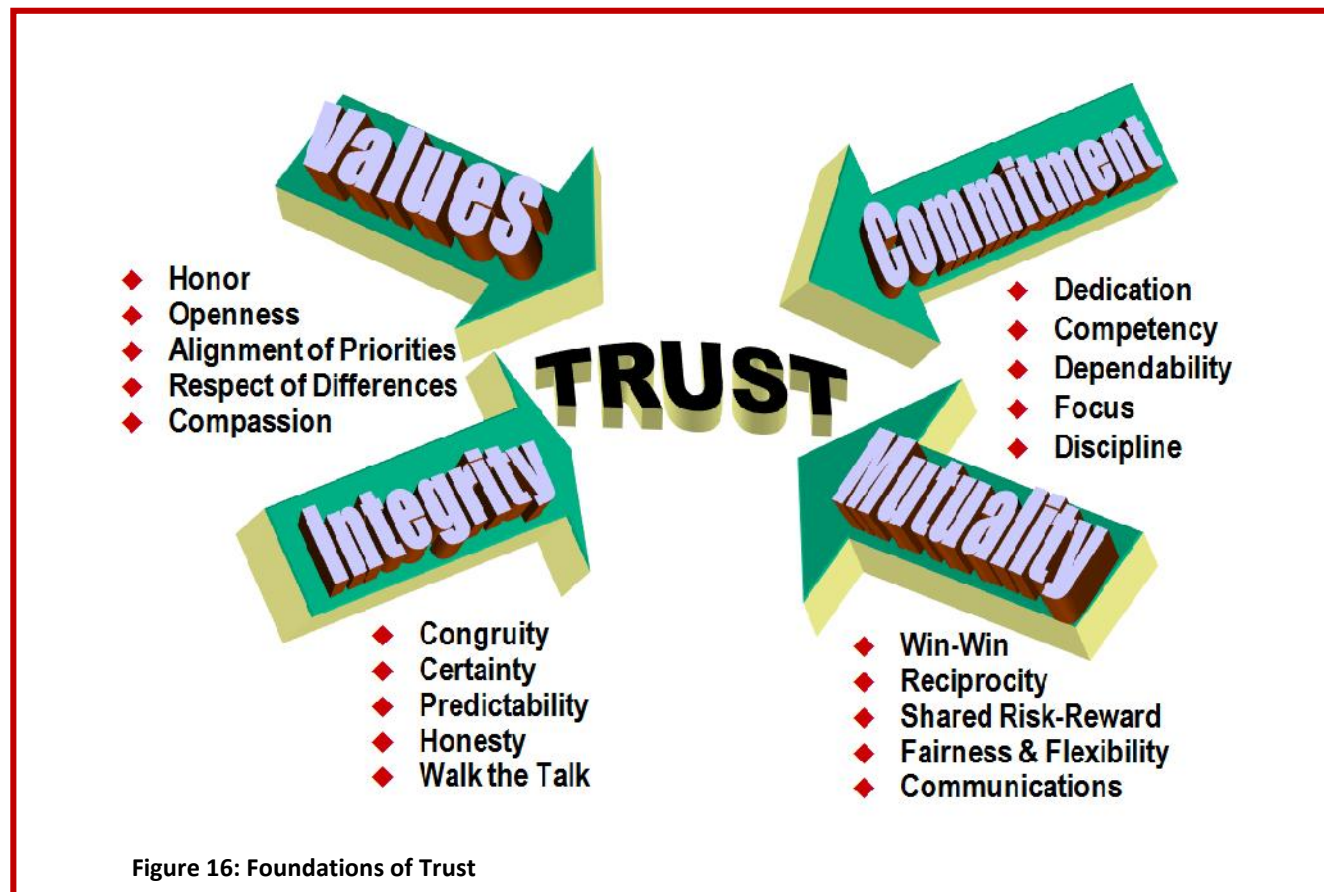


Figure 16: Foundations of Trust



## Introduction & Basics of Alliance Based Construction

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However, much of the high failure rates associated with Lean management<sup>5</sup> and Integrated Project Delivery can be attributed to the fact that each methodology lacks a trust building ‘architecture’ that systematically addresses how to build trust, how to use trust as the underpinning of innovation, and how to ensure that trust is sustained.

Those who studied the Toyota manufacturing system to model Lean management failed to see the powerful methodology that preceded Lean – the creation of trust between labor and management that empowered collaborative innovation.

In Alliance Based Construction, we utilize a robust and powerful ‘trust architecture’ that ensures the underlying trust is ensured, sustainable, and helps teamwork and collaborative innovation (such as Lean) produce powerful results. The trust architecture is woven deeply into the fabric of the alliance culture, ranging from developing the alliance’s operating principles to the selection of high trust people for the alliance.

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<sup>5</sup> According to the Lean Management Institute (John M. Bernard, Oct 29, 2012), “Sadly, 80 percent of Lean initiatives are abandoned within three years of their launch. In addition, only two percent of organizations that venture into Lean get the results they expected.” Bernard goes on to state, “...Lean fails primarily because ....most management teams don’t understand Lean. When we don’t understand something it is next to impossible to support it. This lack of understanding of Lean by management allows even the most subtle of things to derail Lean efforts.” According to Bernard, “management is a collection of interconnected processes, which need to be treated as its own system.”

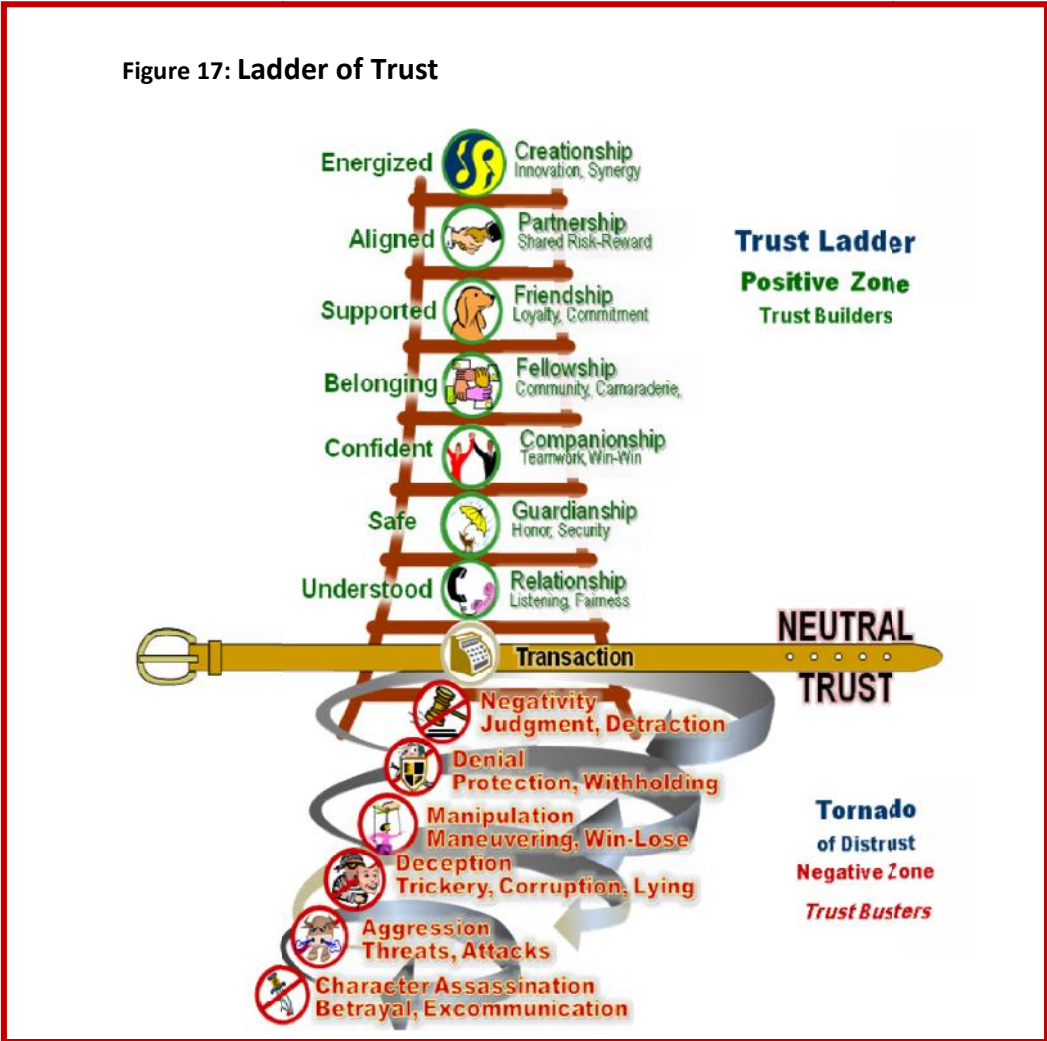
[Author’s Note: the idea of management being a collection of interconnected processes is only partially correct. Here it is important to distinguish the difference between ‘leadership’ and ‘management.’ Leadership (and its derivatives such as innovation) is driven more by *principles* than processes, whereas management tends to be more *processes & practices* guided. The development of a high performance ‘culture’ for the alliance does not come from processes, but from principles, strategies, and beliefs about people that drive core values. Engineers in particular tend to view the world as a set of mechanical systems that can all be broken down into core processes. This leads to the false expectation that human systems will behave like mechanical systems and follow mechanical/logical rules of behavior. This is extremely relevant to managing complexity. In mechanical systems, the mechanical/logical route says *simplify – reduce, eliminate, and accelerate*. However taking this route inside human systems will trigger high levels of distrust, anger, and resistance to change because people will see their jobs threatened as their sense of security is undermined by the thought that management is instituting Lean production because each worker is producing ‘fat and waste.’ In human systems, it is smarter to start not logically, but intuitively, focusing on *synergy – collaborate, innovate, synchronize, integrate.*]

# Introduction & Basics of Alliance Based Construction

One of the most important tools used is the Ladder of Trust (see Figure 17), which acts as a gauge to the level of trust in the alliance, the relationships between companies, and its delivery team. The Ladder of trust can also be linked to job retention, absenteeism, and an individual's sense of well-being.

The classic problem of territoriality, working in isolated silos, and protecting one's interests with mountains of legal documents is eliminated in a high trust environment.

Ultimately, trust is the glue that holds the alliance together.



# Introduction & Basics of Alliance Based Construction

## H. SHIFTING FROM VENDOR TO ALLIANCE PARTNER PERSPECTIVE

Alliances are not for every business relationship. There are innumerable situations where a supplier should only be considered as a “vendor.” When thinking about what kind of relationship is optimal, use Table 1 as guidance. (note: no company will fit perfectly into any of the three categories. Many companies may currently be considered Vendors or Preferred Suppliers, who should be Alliance Partners. In this case, the Best Practices in Book Two will prove invaluable in making the shift to an Alliance Relationship.

**Table 1: Distinguishing Vendors from Alliance Partners**

Factor	Vendor	Preferred Supplier	Alliance
<b>Viewed as</b>	Replaceable commodity	Unique specialty	Integrated, customized specialty
<b>Level of Integration</b>	Low/not integrated	Loosely integrated	Highly integrated or inseparable
<b>Number of Suppliers</b>	Many	Several	Very few
<b>Distinguishing Features</b>	Mainly price driven within minimum quality standards	Price plus unique offering (e.g. technology, service, etc.)	Synergistic value proposition (e.g. mutual growth)
<b>Style of Interaction</b>	Tactical transaction	Preferred and/or tactical relationship	Strategic synergy
<b>Duration of Term</b>	Short-term	Medium-term	Long-term
<b>Value Proposition</b>	Price and acceptable quality	Price, superior quality, and excellent service	Strategy, cost, quality, reliability, speed, innovation, etc.
<b>Framework for Winning</b>	Winning is essential for me—what happens to you is your business	A win is essential for me and I know I should let you win too if the relationship is to survive	A win-win is essential for both of us and is critical if the relationship is to thrive continually
<b>Competitive Advantage</b>	Low	Moderate	High
<b>Build, Buy, Partner Decision</b>	Seldom produced internally (not a core competency)	Often produced internally (debatable core competency)	Frequently has been an integral part of the internal value chain
<b>Trust Level</b>	Distrust prevalent (caveat emptor)	Trust is important to managing the relationship	Trust is essential to generating a continuous stream of new value

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<b>Difficulty of Exit</b>	Low impact, excellent ability to switch vendors quickly	Moderate impact	High impact; switching may have detrimental impact due to disintegration of systems
<b>Strategic Environment</b>	Cost driven Low product differentiation TCO is noncritical Relationships not important	R&D is a distinguishing value Application focus Provider of performance	Discontinuous change in buyer's industry Fast time to market is essential Innovation and integration are essential

### Distinguishing Joint Ventures from Strategic Alliances

Joint Ventures are very prevalent in the construction industry. Often two contractors with different skill sets will jointly agree to build a project. For example, one company may have the technical skills to build a high-rise office building, but not have the local knowledge or trust of the governmental authorities or trade unions. The partner company may have these local relationships, but not the technical experience or bonding authorization of the larger, outside firm. Together they can form a Joint Venture to bid on and build the project.

While Joint Ventures are not, in the strictest sense, a strategic alliance, they are a collaborative relationship. However, being good at a JV does not imply that JV experience can be transferred fully into a strategic alliance. (see Table 2 to understand the difference between a JV and an Alliance)

**Table 2: Comparing a Joint Venture to a Strategic Alliance**

	Joint Venture	Strategic Alliance
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Joint <u>Project</u> Bidding &amp; Construction</li> <li>• Potential Joint Ownership after construction completion</li> <li>• Maximize Profit from <u>Project</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>Long Term Strategic Alignment</u> combining strengths of two organizations to produce a highly competitive, unified set of joint capabilities that will bid on and complete many projects over the lifetime of the alliance</li> <li>• <u>Strategic intervention</u> into the marketplace to capture strong market position</li> </ul>

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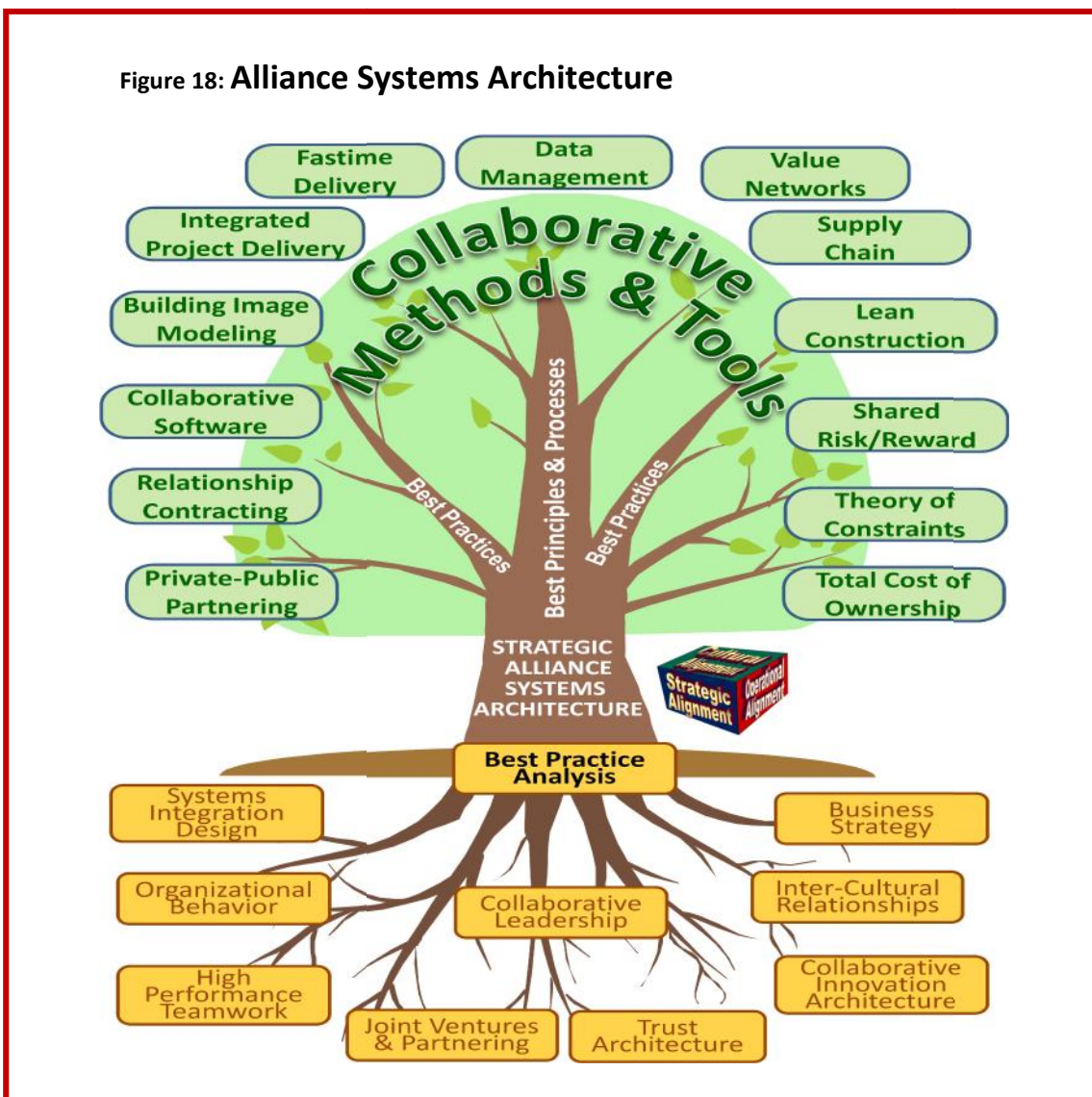
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<b>Competitive Advantage</b>	Brings strengths of two companies together for increased chance of success in Project Bidding & Construction Delivery	Strengths of two companies are combined for Long Term Market Penetration, Higher Value Delivery in Bidding, Construction, Innovation Evolution, and Customer Satisfaction to maximize profitability, market share, & value delivery
<b>Structure</b>	<ul style="list-style-type: none"> <li>• Joint Project Construction Agreement that divides responsibilities, risks, and rewards among the partners</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple levels of Strategic, Relationship, Operational, &amp; Financial Integration</li> <li>• Evolving Strategic Plan that adapts to Market &amp; Competitive Conditions</li> <li>• Committed Leadership at senior and middle management</li> <li>• High Levels of Trust based on Personal Relationships of Integrity</li> <li>• Individual Construction Projects are often separate JVs based on specific conditions</li> </ul>
<b>Contract</b>	<ul style="list-style-type: none"> <li>• JV Contract defines the Legal Structure &amp; Allocation of Responsibilities, Risks, Profit Sharing, and Conflict Resolution, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Contract is only a Portion of the Agreement, often intentionally broad.</li> <li>• Operational Teamwork &amp; Interpersonal Integrity more important than contract</li> <li>• Maximum Flexibility as times and market conditions change,</li> </ul>
<b>Key Factors for Success</b>	<ul style="list-style-type: none"> <li>• Best Project Management Practices (cost, quality, and time control)</li> </ul>	<ul style="list-style-type: none"> <li>• Best Alliance Management Practices, including Project Best Practices</li> <li>• Requires intimate knowledge of the customer's needs &amp; high value inter-action between A&amp;E, suppliers, subcontractors, &amp; others</li> </ul>
<b>Duration</b>	Construction Cycle (or longer if JV operates the facility)	Long Term Commitment to mutual success (no defined endpoint to the relationship)

## I. BASICS OF ALLIANCE “SYSTEMS DESIGN ARCHITECTURE”

### Distinguishing “Systems Architecture” from Methods & Tools

One of the primary reasons for the success of Alliance Based Construction is that it uses, at its core, a ‘systems architecture’ that is holistic, integrated, and based on sound and tested rationale. (see Figure 18)





# Introduction & Basics of Alliance Based Construction

First, the alliance systems architecture is deeply rooted a multiple set of disciplines, including business strategy, systems integration design, organizational behavior, inter-cultural relationships, collaborative innovation, collaborative leadership, high performance teamwork, joint ventures & partnering, and a system of trust. This makes the alliance systems architecture extremely holistic.

Second, the 'trunk' of the systems architecture is built around the three-dimensional alignment system of strategic alignment, cultural alignment, and operational alignment.

Third, the core of the system is a highly effective and tested Best Process flow map that takes the development of the alliance from concept to implementation to completion. (see Figure 19)

Fourth, onto core Best Process Flow are literally hundreds of tested and valid Best Practices, which ensure a powerful, fluid, and successful means of moving through each phase of the process map.

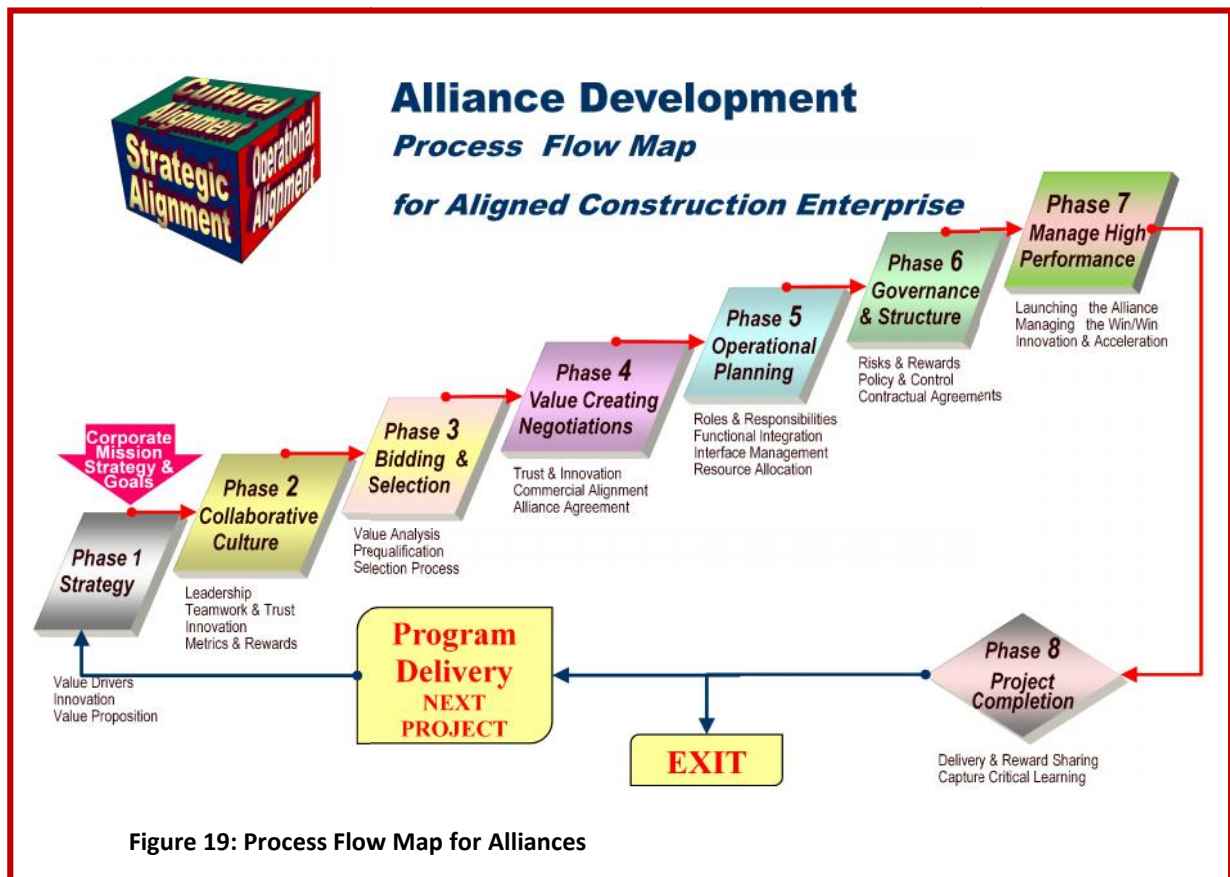


Figure 19: Process Flow Map for Alliances



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Fifth, onto the Best Process/Best Practice map a number of methodologies and tools can be utilized, including Lean Construction, Fasttime, Private-Public Partnering, Value Engineering, Supply Management, Total Cost of Ownership, Relationship Contracting, Collaborative Software, and other Integrated Project Delivery methods and tools.

By combining the best process with best practices (see Figure 20) the alliance professional or practitioner has the advantage of an extremely powerful methodology for alliance success. The best-process model used throughout this book is depicted in the Alliance Framework image at the beginning of each phase in Book Two. (see Figure 21)

## Distinguishing Best Process from Best Practices

Often people are confused when hearing the words 'best process' and 'best practices.' These expressions are closely linked, but are not synonymous.

A *process* is a distinct stage or phase in the conversion or transformation or adding of value to product or service.

Each process is composed of a series/sequence of practices that enable the process to perform its function.



Figure 20: Best Process & Best Practice



Figure 21: Best Process Flow for Alliance Based Construction

Overall, the alliance systems architecture is profoundly simple, but capable of handling highly complex situations in multiple industries. It is constantly evolving, being upgraded by several thousand professionals who contribute and share new approaches through the Association of Strategic Alliance Professionals (ASAP). (see [www.strategic-alliances.org](http://www.strategic-alliances.org))

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The following pages provide a high-level overview of each phase of the Alliance Based Construction Life Cycle Framework depicted in Figure 21

## Alliance Best Process Life Cycle

### Phase 1: Strategic Alignment

Alliances make sense only in the context of understanding an organization's business strategy.

In the past, most companies chose to do business as totally independent entities, and engage in an adversarial strategy with their competitors. Often this adversarial strategy extended to customer and suppliers, and even to labour.

Over the last twenty years, many businesses have realized it makes more competitive sense to have an adversarial strategy against their arch rivals, but a collaborative strategy with suppliers, customers, and other companies that can add value with complementary products, services, and solutions.

In the construction industry, it is a highly important strategic decision affecting one's long-term destiny to opt for either:

- a stand-alone, independent delivery approach that pits companies against each other, or
- a collaborative, integrated delivery approach that seeks to create synergies by joint innovation and sharing risks and rewards.

This choice cannot be taken lightly, because it has major implications about how one will create competitive advantage for years to come.

Once companies have a clear vision as to their strategic requirements and thus what they want from an alliance, then they can formulate their value

### Alliance Strategic Drivers

When companies come together in an alliance, they must be deeply aware of the strategic driving forces that bear upon the principle members. (this is distinctly different from typical transactional relationships where each of the participants tries to maximize for their own self interest, and uses legal devices to protect themselves from predatory behavior.)

For example, if a governmental agency is the Owner in an infrastructure project, protecting the public interest may be the strongest driving force. Designers and builders must be extremely sensitive to this issue.

In an industrial Oil Sands project, the price of oil and a short construction cycle that delivers the first barrel quickly may be the most powerful set of drivers.

Similarly, Owners should understand the drivers for their partners, because, ultimately, strategic drivers will heavily influence the decisions of the participants.

Understanding strategic drivers is essential to defining the joint Value Proposition for the alliance and the Value For Money equation.

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proposition for the success of the alliance and a sustainable strategy for continued growth and profitability.

## **Phase 2: Collaborative Culture**

Key to the success of any alliance will be the involvement of executive management and key individuals within the organization who will come to share the vision of the alliance strategy.

But a company cannot just jump into a collaborative strategy in business without building some sort of collaborative infrastructure/culture to support the collaborative strategy.

A collaborative culture begins with building a system of trust inside the company that then extends externally to customer and suppliers. Trust is the foundation of all collaborative enterprise.

The selection, training, and promotion of people is also central to the collaborative culture. Selecting and promoting honest, hard working, team oriented people is especially important. Promoting dictatorial leaders will destroy collaboration. An alliance champion should be assigned, ideally at a senior level, to serve as an executive sponsor to provide leadership and guidance throughout the alliance life cycle.

Also building a culture that supports innovation, new ideas, and continuous improvement is essential to building a business and alliances that are sustainable in the long term.

## **Phase 3: Bidding and Selection**

The Bidding and Selection phase begins with finding a partners who, together, can work and create a project that produces real Value for Money. The selection of great partners should be done carefully by Owners, Designers, and Contractors before bids are requested.

In the new alliance world, it can be expected that Owners will pre-select teams based on their ability to produce great results through collaboration.

Clear measures of alliance success will be established at this phase. We cannot underestimate the importance of this phase to the ultimate success of the partnership.

As we will learn, selecting an appropriate partner requires more than simply viewing financial statements. It requires learning about the structure of the other organization and how it functions. What is its organizational culture? How will it fit within our structure? Can we ultimately take an organization that thinks differently than we do, close the gaps between our organizations, and fashion a successful relationship?

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## **Phase 4: Value-Creating Negotiations**

Value-Creating Negotiations will provide us with a different methodology with which to engage our prospective alliance partners. Building trust is essential to the formation of an alliance. Trust is built through the co-creation process as prospective partners jointly map out their future, defining common goals and the broad outlines of their relationship. Joint creation of new innovations to make the project run better, faster, and less expensively will be sought during this phase.

The value-creating process stands in contrast to transactional negotiations, which focus on the exchange of value rather than its creation. The whole concept of Value for Money will be explored by all parties during this phase.

Note in particular that the Alliance Life Cycle Framework does not prescribe entering into a contractual agreement until late in Phase 6. Most seasoned alliance managers will resist the pressure to get a contract done too early in the process and will try to ensure that the alliance operations and structure are properly understood before a formal agreement is drawn up. Instead of a deal-making mentality, we will be utilizing a co-creative strategy—an approach that will permit both partners to realize their strategic vision in a way that will add value to each partner's organization and to the alliance as a whole.

The end result of this phase will be a relatively short, DRAFT Alliance Agreement (written in non-legal English) that stipulates the purpose, core Operating Principles, and requirements for success. This document, jointly created, will lay the foundation for the operational plans to follow and the final contract.

## **Phase 5: Operational Planning**

The Operational Planning phase is where we will sit down with functional groups from the various alliance partners, including the Owner/Customer, the Designer (Architects & Engineers), Contractor/Construction Manager, and key Subcontractors.

At this time we will identify all of the operational issues that may occur, during pre-construction launch or implementation. Any potential problems that are identified can then be addressed.

Typically, if not already done in the previous phase, a Target Costing approach will be done to set the stage for 'beating the numbers.'

In the Operational Planning phase, our organization and our future partners will jointly establish a day-to-day operational plan. We will document how the business processes will operate. In addition the plans will establish preliminary designs for control systems, reporting systems, and the interfaces that link the functional teams. The creation of these plans should be viewed as a

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‘pilot project’ that provides a ‘reality check’ on the assumptions and projections made during the Value-Creating Negotiations phase.

In particular, the core roles, responsibilities, and risks will be examined in detail. Everyone will have a chance to suggest better ways to proceed. Once risks are identified, the Risk-Reward structure can be formalized in the next phase.

## Phase 6: Structuring & Governance

The Alliance Structuring phase focuses on creating a fair risk/reward formulation, governance, organizational and legal frameworks for the strategic alliance relationship; on finalizing operational plans, ensuring that leaders and key managers are in place; and on establishing a risk-and-reward formula that motivates both parties to make the relationship succeed. Structuring culminates in the signing of the Final Alliance Agreement and any contractual relationships that are necessary.

The Alliance Leadership Team, Alliance Executive Council (AEC), and the Alliance Management Team are formalized and set into motion during this phase. The AEC will include executive champions from each of the major contributing companies (generally determined by their participation in the risk/reward sharing.) The AEC’s role will be to guide policy, review the relationship’s performance, and be generally responsible for keeping the relationship healthy and focused on continuous improvement.

The Alliance Structuring phase builds on the broad objectives and goals described in the DRAFT Alliance Agreement , and the detailed review of the Operational Plan to create a framework that reflects the collaborative spirit of those two documents.

## Phase 7: Managing High Performance

In the Managing High Performance phase, the alliance is launched, and the Alliance Agreement (established in the prior Structuring & Governance phase) is implemented and managed over

### Alliance Agreement

The Alliance Agreement is very different in form and function than a standard legal contract. The purpose of the Agreement is to support the multi-dimensional aspects of the 3-dimensional alignment that holds the alliance together through the twists and turns of time and change.

Some of the components of an Alliance Agreement (sometimes referred to as a “Relationship Contract” include:

- Vision & Purpose
- Value Proposition clarifying the Value For Money equation
- Operating Principles to guide decision-making and sustain trust
- Legally binding contractual issues
- Operational Plans for various aspects of project delivery with roles, responsibilities, and expected time lines
- Governance Structure
- No Blame/No Litigation dispute escalation & resolution process
- Risk/Reward Sharing formula,

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time. This phase will involve the various operational teams and the Alliance Executive Council (AEC)

The Alliance Management Team, acting in the systems integration role, ensures that all the pieces of this highly complex system are inter-connected and coordinated. The Alliance Management Team is responsible for ensuring that the alliance agreement is implemented and managed. Missing capabilities are brought in to augment what the partners lack. This team also works with the AEC to ensure that issues are handled in a timely manner.

The AMT should be participants in the joint Risk/Reward structure, thus keeping their measures and rewards in complete alignment with the other partners.

The Operational Teams (established in Phase 5) focus on achieving key targets.

## Phase 8: Project Completion

A significant aspect of the project completion will be devoted to two things:

- Capturing the learnings from this project so that these can be applied to the next project
- Allocating the Reward Pool as a bonus for beating the numbers.

The partners have two choices at this point:

1. Separately move on to other projects as independent agents
2. Collectively go for more projects as an experienced high performance team.

Because the decision to enter into Alliance Based Construction was a strategic decision that involved an investment of time, money, and emotional energy, if successful at the first project, most companies can expect to opt to make this ABC a powerful competitive advantage, thus moving from a project-to-project orientation to a strategic program.

The alliance team will be responsible for identifying new opportunities as well as adjusting the requirements of the existing ones. As market conditions change, the alliance will have to be proactive in changing with them to remain vibrant and healthy.

### Note

This Alliance Life Cycle Framework is only a guide. As a practitioner of the framework you will have to decide how much or how little of it is applicable to a given alliance scenario.

For example, smaller construction projects may be able to manage very successfully with a more “lightweight” application of this framework because their business organizations and processes are not overly complex. In this case, when collaboration is still warranted, the ‘partnering’ approach may be more appropriate than the ‘alliancing’ approach.

## J. ALLIANCE FAILURE FACTORS

When companies embark on building alliances without the guideposts of best practices and instead simply adopt practices ad hoc, their success rates tend to be abysmal. Such alliances typically reflect some of the worst practices, as described below and illustrated in Figure 22:



### Typical Causes of Failures

- Assuming an alliance is just another transaction or “deal” or joint venture
- Treating partners as ‘vendors’
- Rewarding the deal makers for the number of deals they close
- Focusing on getting the contract signed (assuming the contract embodies the “agreement”)
- Keeping those who will actually manage the alliance at bay until after the closing—i.e., not allowing alliance managers and operational people to “complicate” the negotiations
- Maximizing the financial impact of the venture on paper without examining the operational issues, where unchallenged assumptions may increase risks
- Turning the alliance over to alliance management and operational people after the contract is signed as a “done deal,” throwing it over the transom, and praying they will succeed because it’s all in their hands now
- Launching the alliance without getting proper goal alignment among the operational people
- Attempting to make critical operational decisions without an effective governance structure and the active commitment of senior sponsors
- Having a vague communication plan that provides uneven flow of information across operational people and stakeholders and/or between the two partners
- Underestimating the criticality of recognizing and addressing cultural differences that become evident as the partners work together
- Using a system of metrics that simply looks at financial outcomes without also incorporating measures for alliance health and process effectiveness
- Ignoring the importance of lessons learned throughout the alliance and especially after the project completion phase.

**Figure 22: Typical Causes of Alliance Failure**



## K. RISK REDUCTION AND RISK/REWARD SHARING

Managing risk is a critical element in every construction project. For most construction companies, 'safety first' is where risk management begins. Safe job sites not only save workers from injury, but also save on insurance premiums from workers compensation costs. And, as an important bonus, when workers feel safe, their morale increases along with productivity. A worker worried about his or her chance of being injured is focused on personal protection, not innovation.

In the Alliance Based Construction model, many construction risks are dramatically lower than in traditional approaches.

First, because trust levels are higher in ABC, communications, problem solving, and innovation increase, reducing risks of failure in the field. Trust also eliminates massive amounts of non-value-added work, such as redundancy, cover-your-backside, etc.

Second, by creating a high performance team utilizing the 'best people for the project' principle, higher productivity creates lower risk.

Third, by integrating all the creative thinking up front (front-loading) into the design cycle (Phase 5 – Operational Planning, see Figure 19), opportunities for innovations are identified, field problems are reduced significantly, and early warning systems are established for averting major catastrophes.

Fourth, the Risk/Reward balance is fair and incentivizes co-creation, collaborative innovation, and collective action for the 'good of the project.' (Note: the Risk/Reward structure is not finalized until all the members of the alliance are engaged in identifying potential risks and finding ways to resolve them *before* they strike – Phase 5, Figure 18)

And lastly, because most ABC relationships reject litigation as a means of resolving difficulties, the back-end legal costs are eliminated. (Resolution of differences can be handled with Alternative Dispute Resolution. However, in the hundreds of ABC projects, litigation was never necessary.)

### Typical Risk Sharing – Reward Sharing Model

One distinguishing feature of alliances (in every industry) is the sharing of risks and rewards. Sharing risk is important because it creates 'skin in the game;' each party is obligated to put forth its best efforts to reduce risks, and to share in the rewards for creating value.

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In Alliance Based Construction, a three tiered Risk/Reward financial structure is established for 'pain-gain sharing.' (see Figure 23). It is a "three tiered (or limbed)" approach that ensures neither the Designer or Contractor will be bankrupted by the formula.

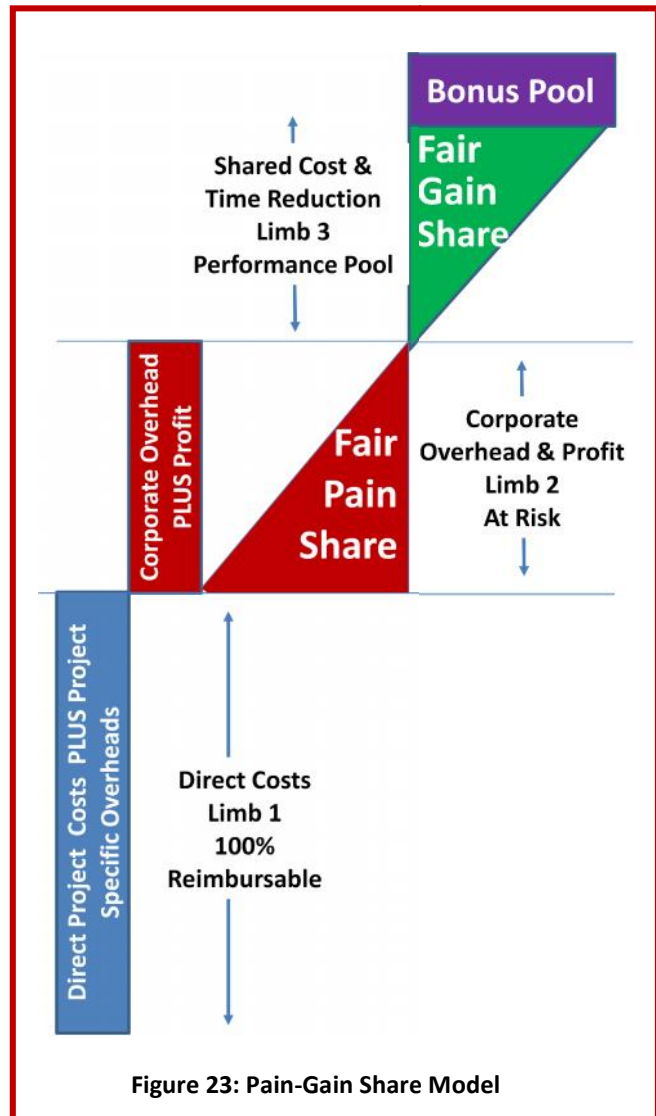
## Limb 1: 100% Reimbursement of Direct Costs

This includes direct costs and project specific overhead incurred in delivering the works, irrespective of the performance of the alliance and the outcomes of the gain share/pain share regime. This reimbursement includes rework where aspects of the work change, fixing errors or mistakes, and any wasted effort. Reimbursement of direct costs should make no contribution to administrative or support functions that are not directly related to the performance of the works.

## Limb 2: Normal Profit and Corporate overhead (non-project specific)

An outside accounting firm determines what has been normal historic overhead and profit, above and beyond that included in the direct project overheads. This is placed at risk should the alliance members

underperform. (Subcontractors that are not part of the pain/gain arrangement are excluded unless the Contractor makes special arrangements with the alliance). Typically Limb 2 percentages are lower for Contractors than for Designers, because of the different ways each allocates overhead. The fair share percentages are negotiated among the Owner and Partners and agreed upon mutually before launching the project.



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## **Limb 3: Gain Share**

This represents the amount of money that is offered to the Owner and the Partners to 'beat the target cost.' Typically the owner retains about 50% of the savings, and the Partners split the remaining savings as a bonus. The Partners engage in robust principles-based decision making to ensure a real win-win and that performance is not sacrificed in order to achieve gains.

In projects where completion ahead of schedule is an important part of the Value for Money equation, a bonus pool is established to incentivize fasttime delivery.

## **Bottom Line: Industry shift**

After having shifted to an Alliance Based Construction model, here's what the Aussies say about its effectiveness:

As well as the traditional drivers, today's alliances also resonate with clients because of their capacity to deliver significant community and social benefits and legacies. Increasingly this is a major requirement for clients whose vision transcends the historical project delivery outcomes of time, cost and quality, and whose own clients, often the public, expect community-focused, sustainable development.

Today's high demand for alliances is also being driven by a resource-constrained market. Owners are seeking resource certainty and want to develop and retain people on their projects.

Historically, Designers and Contractors have provided services to clients in traditional 'design then build' frameworks, in 'design and construct' teams, 'partnering' and similar arrangements.

Experience has shown that when alliances are used for the right project and given appropriate management focus they can provide better outcomes and a higher level of satisfaction than if these traditional adversarial delivery methods are utilised. The reasons for this include:

- Price Certainty – alliances are typically delivering to within (+or-) 5% of the Target Cost
- Solutions-Focused Approach within complex, challenging project environments
- Project Team's Energy focused on achievement of project goals
- No Costs incurred in Litigation
- Better Project Delivery Certainty

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- an evolved Value For Money (VFM) proposition incorporating transparency, time and quality criteria, as well as long-term sustainable (community, environmental and stakeholder) legacies
- focus on responsibility and accountability
- greater community and stakeholder engagement
- superior prospects for achieving environmentally sustainable solutions through a whole-of-project approach
- improved professional and personal growth
- opportunities for skills and knowledge exchanges between the Owner and Partners
- constant benchmarking of project outcomes.

## **Insurance shift**

The insurance industry also responded positively to this changing face of the engineering construction industry. In approximately 15 current alliance projects a professional indemnity policy directly tailored by the international insurance industry for 'no blame' culture alliances has been accepted. This is also reflective of the insurance industry's willingness to embrace this form of contract as a viable risk management model. The lack of such a product in the past had been an impediment to the establishment of alliances.

# Prelude to Book Two: Alliance & Aligned Construction Enterprise Best Practices

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## L. USING BOOK TWO: ALLIANCE BASED CONSTRUCTION BEST PRACTICES USER GUIDE

### Purpose of the User Guide

The purpose of this Strategic Alliance Best Practice User Guide is to enable you to design, form, and manage alliances in the most successful manner possible. The Alliance User Guide is the result of years of experience, analysis of successes and failures, and surveying of the most profitable approaches used by alliance experts among the top companies in America. The material contained in this User Guide reflects the learnings gleaned from well over 1,000 alliances, both domestic and international.

However, it is not the intent of this guide to provide you with a “cookbook” about alliances, with precise formulations and ingredients, because every alliance is different — one size will not fit all. Neither is it valuable to attempt to make users alliance “mechanics,” because mechanics understand only the “nuts & bolts,”

Every alliance is unique and must be customized to the alliance partner, the driving strategy, and the cultures of the alliance partners. Therefore, this User Guide should be viewed as a ***guidebook, not a cookbook.***

The User Guide is designed to prevent those involved in deal making from committing significant mistakes typical to business developers that are the cause of alliance failure. In particular: too much emphasis on legal agreements; too early a focus on structure without understanding and, the driving strategy or functional integration requirements; lacking a sense of continuity between the negotiating team and into the alliance operational planning and implementation.

# Introduction & Basics of Alliance Based Construction

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## Findings from Best Practices Benchmarking

The contents of the User Guide have evolved from benchmarking studies of the Best Practices used among the top corporations currently involved in alliance formation and management throughout the world. You will see many words of advice from seasoned veterans who have made many mistakes in the course of mastering their profession.

A Best Practice then results from comparing a number of different ways for achieving the same output. The “best way” (or Best Practice) is the one that achieves a superior output in the most efficient way at the least possible “total” cost to the organization.

An important consideration to remember is that a Best Practice today can be replaced with a “better” Best Practice tomorrow that improves upon the results of the output of the process being performed.

It is important to know that alliances that do not follow best practices have a very high likelihood of failure. But for those who diligently adhere to best practice usage, the rewards are enormous, resulting in much higher success rates as shown

# Introduction & Basics of Alliance Based Construction

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## GLOSSARY OF TERMS

### List of acronyms and definitions

<b>ALG</b>	Alliance Leadership Group is another term used to describe the ALT
<b>ALT</b>	Alliance Leadership Team is the group of senior representatives of the participant organisations that provides vision, governance and leadership without being involved in day-to-day operations
<b>AM</b>	Alliance Manager is the person who is ultimately responsible for delivering the alliance objectives
<b>AMT</b>	Alliance Management Team is accountable for delivering the day-to-day business of the alliance and is led by the AM
<b>AOC</b>	Actual Outturn Cost is the actual final total cost (Limb 1 plus Limb 2) incurred in delivering all of the alliance objectives
<b>APM</b>	Alliance Project Manager is another term for the AM
<b>APMT</b>	Alliance Project Management Team is another term used to describe the AMT
<b>BAU</b>	Business As Usual is the level of performance that would normally be expected based on historical results
<b>iPAA</b>	interim Project Alliance Agreement is the preliminary contractual agreement executed by the participants that guides the development of the TCE and is replaced by the PAA
<b>KPI</b>	Key Performance Indicator is the metric that is used to assess the performance of the alliance in delivering a KRA
<b>KRA</b>	Key Result Area is the area (other than cost) of value to the owner that normally aligns with their corporate goals or business objectives
<b>MCOS</b>	Minimum Conditions of Satisfaction is the owner's minimum expectation of performance against the KRAs where no pain or gain is experienced and generally lies at or slightly above BAU outcomes
<b>NOP</b>	Non-Owner Participant is a party to the alliance that jointly signs the PAA and is not the owner of the asset
<b>OP</b>	Owner Participant is the party to the alliance that is the owner of the asset and pays the NOP for their contribution to the delivery of the alliance objectives
<b>PAA</b>	Project Alliance Agreement is the contractual agreement executed by the participants that guides the delivery of the alliance objectives
<b>PAB</b>	Project Alliance Board is another term used to describe the ALT
<b>RFP</b>	Request For Proposal is the owner's document that calls for submissions from industry participants, and describes the scope and objectives of the alliance



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- TCE** Target Cost Estimate is the detailed cost estimate agreed by the participants as the target required to deliver the alliance objectives including MCOS performance for the KRAs
- TOC** Target Outturn Cost is the summation of the line items in the TCE and is the benchmark against which the AOC is compared to determine financial gain or pain for the NOP
- VFM** Value For Money is a term that is used as the basis of focusing alliance participants on measuring and documenting the initiatives of the alliance beyond BAU that contribute to outstanding performance
- WPT** Wider Project Team is the greater team within the alliance that provides the required resources, skills and experience to undertake the day-to-day activities

**Note:** acronyms have been presented in title case throughout the text to indicate their importance as industry terminology.

## Case Studies

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Insert Australia, IPD, (Moose Jaw Hospital, etc) and Calgary Roadway Cases

### AUSTRALIAN CASES

#### Case note 1 Alliance beginnings in Australia

**Project:** Wandoo B Offshore Oil Platform  
**Owner Participant:** Amploex Limited  
**Non-Owner Participants:** Brown & Root, Keppel Fels, Leighton Contractors, Ove Arup & Partners  
**Value:** \$364m  
**Duration:** December 1994 to March 1997

This project was to develop a marginal high-risk oil field 75 km north-west of Dampier in Western Australia.

#### **Outcome:**

The Wandoo Full Field Development was an outstanding success. Amploex was able to bring a significant asset into production in a time that was at least seven months faster than benchmarked world performance for similar platforms, and at a cost where savings of \$13 million against the sanctioned project budget were realised.

Amploex is on record as saying that "... a properly formed alliance will deliver exceptional savings in project time and project cost to the client, resulting in exceptional profits for all participants and satisfaction to each individual employed within the alliance."

*Source: Relationship contracting: optimising project outcomes, ACA 1999*

#### Case note 2 Alliance selection process breakthrough

**Project:** Northside Storage Tunnel Alliance  
**Owner Participant:** Sydney Water Corporation  
**Non-Owner Participants:** Transfield P/L, Connell Wagner P/L, Montgomery Watson Australia P/L

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**Value:** \$465m

**Duration:** 1997 to 2001

Sydney Water needed to significantly reduce the volume of wet weather sewage overflows into Sydney Harbour prior to the start of the Sydney Olympics in September 2000 to ensure the events being held on the harbour were not going to be affected by wet weather sewage pollution.

The project involved the design, manufacture, fabrication, supply, construction, testing and commissioning of a 16 km storage tunnel and 3.5 km branch storage tunnel, overflow connection works and upgrades to the North Head Sewage Treatment Plant. The tunnel is up to 160 m below ground level and between 3.8 m and 6.6 m in diameter, and can store up to 500 ML.

**Outcome:**

By the beginning of 1997, Sydney Water had developed a high level concept of how to address the three major point sources of wet weather sewage overflows.

The construction of a facility of this magnitude across prime residential suburbs of Sydney in a timeframe not previously achieved was going to be challenging. Existing contracting methods would not have delivered the result in the timeframe, and the other Key Result Areas (KRAs) of cost, community, environment and safety would not have been achieved to the standard required for this project.

Sydney Water has commented that:

“The project was very successful and groundbreaking in many areas. Despite many constraints and difficulties, the project:

- achieved its targeted outcome of being ready for the Sydney 2000 Olympics
- was delivered as a fast-track project using the alliancing contracting method, a first such public sector contract in Australia
- was innovative in linking financial rewards to achievement on non-cost objectives
- achieved exceptional results in its delivery of community relations, environmental management and safety systems
- was completed at a final cost which represented an increase of only 3.3% over the original Target Cost

Estimate (TCE) – adjusted to include escalation and accounting policy changes – despite significant technical, environment and social problems and delays.”

After the Northside Storage Tunnel success followed other significant alliance projects like the BP Bulwer Island Refinery Queensland Cclean Fuels Project (1998 to 2000), and the National Museum of Australia (1998 to 2001).

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Alliancing came to the attention of the Queensland Main Roads Major Projects Office General Manager, Derek Skinner, who drove the uptake of alliancing within the Queensland public sector. Queensland's first alliance was the Norman River Bridge Alliance (1999) in far north-western Queensland. Derek was the champion for this catalyst project, a small (\$5 million) but significant and award-winning alliance which involved designing and constructing a new bridge over the Norman River near the Gulf of Carpentaria. The bridge had to be completed within a very tight six-month timeframe prior to the arrival of the wet season. Derek's foresight and confidence in this approach led to many more transport infrastructure projects being identified as potential alliances.

One of these projects was the Pacific Motorway. The project began in 1998 using traditional contracts to deliver six packages. Subsequently two packages fell behind schedule such that the overall completion date may have been delayed by six months later than the critical opening date of 7 October 2000. These packages of the Pacific Motorway project were converted from traditional contracts to alliances in February 2000 with outstanding results. The project was completed five days ahead of the opening day, cementing the role of alliancing in challenging projects in Queensland and providing an excellent case study for the rest of Australia.

Building on its alliance success, Main Roads also delivered another milestone project, the Georgina River Bridge Alliance in North Queensland.

These projects were followed by the Port of Brisbane Motorway alliance which successfully completed the design and construction of the \$110 million Stage 1 six months early and under budget.