

Enhancing the Quality of the Specialty Contractor Procurement Process: Creating an Alliance

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Abstract

Traditional methods of contractor procurement in the U.S. are reviewed, from Low Bid to Design Build and “Best Value.” The paper introduces a concept entirely new to the U.S. market — project alliancing. This method was born in the very challenging conditions of the North Sea oil and gas industry and is now being used in Europe and Australasia on large and complex civil and geotechnical projects. The paper discusses the application, definition and features of project alliances and describes how the best team is selected (and rewarded) for each project. The authors believe there is great need and potential for alliances on appropriate U.S. projects.

1. Historical Background

The majority of the papers in this conference describe quality as a feature of the constructed and installed work. However, we must be mindful of the old adage — from TQM days — that you cannot inspect quality into the finished article. Rather, we must apply the appropriate levels of quality control and assurance to each of the successive steps of the process. One of the earliest, and arguably the most important process in any project, is the selection of the “right” contractor and this, of course, relates to the process by which that contractor is procured and the terms under which he must then work.

The concept of selecting a contractor based on his ability (or misfortune) to calculate a price lower than any of his competitors, dates from a time when the construction world was simpler, but undeniably more corrupt. Public openings of bids was a logical and transparent process adopted to negate the opportunity for less than honest officials in the public and private sectors to influence bid awards through bribery and corruption. The puritanical spirit of this concept even went so far as to invalidate bids from contractors who had the common sense (and temerity) to take exception to certain terms and conditions in the Contract Documents or, heaven forbid, to offer an alternative solution (even if it were better for the project). The apogee of this process occurred within the last 30 years in large federally-sponsored dam grouting projects, where the successful (i.e., low) bidder became, in effect, merely a purveyor of labor, equipment and materials, subject to intimate technical direction by the owner’s inspectors. It is now generally recognized that the stagnation in dam grouting practices in the U.S. between the 1920’s and the 1980’s was directly due to this suppression of inventiveness.

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Significant changes have occurred in the construction industry over the last few decades which have forced procurement practices to be re-evaluated in certain fields. Strong and far reaching attempts have been made to stamp out unlawful practices in contractor procurement and payment processes although there are still isolated cases of “kickbacks” and so on being reported, especially on non-Federal public sector projects across the nation. More significant from the viewpoint of the vast majority of owners, engineers and contractors alike is the fact that the technical demands placed on the construction industry have changed. Industry no longer focuses on building highways in greenfield sites between centers of population: it is now building arteries *through* and under such cities. New dams on “good” geology are now very few and far between in terms of numbers under construction: the remediation of existing structures on problematic geologies is now the focus. Urban developments and redevelopments require construction techniques to control soils and movement and water travel in situ. There is not the option of a “walk-away” solution since sewers and transportation tunnels must be built under heavily populated and trafficked conurbations.

Response by “contract and procurement” specialists over the last few decades has been varied. On the one hand, many continue to favor the low bid system which, admittedly, is not unreasonable or inappropriate for works of a relatively simple nature, mainly above-ground, and therefore visible and inspectable at every phase of construction. However, many have chosen, or have been forced by the nature and complexity of the project, to adopt other bases for contractor selection. The onus, with such works, is on “best value,” as opposed to “low bid,” although many times the two can become one and the same. Thus, various flexibilities such as Prebid or Post Bid Alternates and Value Engineering were introduced and indeed, despite their various and well-known deficiencies, are still in vogue (Nicholson, 1990). Partnering has been an excellent innovation (e.g., Nicholson and Bruce, 1992, Snider and Bruce, 1994) although it must be recalled that Partnering is a post-award non-legal process which, when properly and universally implemented, provides a suitable platform for instigating “best for project” principles of decision making.

More recently the same large Federal agencies — heretofore maligned in this paper — have introduced for especially challenging dam remediation projects a two-step process. In this, the provisionally successful bidder is identified on the basis of a detailed Technical Proposal (quantitatively analyzed and graded). Provided he is within the project’s pre-established “responsive range” financially, then he is invited for contract award negotiations. A slight variation on this theme is where the bidders submit separate Technical and Price proposals for the same project. Each proposal has a certain numerical “weighting,” e.g., 70% Technical and 30% Price, and each is evaluated by separate panels of specialists. The bidder with the highest aggregate score is then invited for final negotiations, or indeed may be awarded the project outright on the basis of these quantitative analyses.

In the private sector, it is increasingly common, given the growing sophistication and engineering capabilities of the better specialty contractors, to find “Design-Build” vehicles. These are described fully (as “Contractor Controlled” projects) in the Micropile Implementation Manual (2000).

Despite all these good ideas and noble intentions, the North American construction industry is still a highly litigious and adversarial environment, even though the capacity of its participants to collaborate to find technical solutions continues to astonish watchers, both at home and overseas. When faced with challenges, technical and contractual, of enormous complexity, the North Sea oil and gas industry responded by creating the “Project Alliance” concept. Following its initial success at assuring project delivery on schedule and under budget, it has spread to other major infrastructure industries in Europe and Australasia, with similar, stunning success. Such projects have involved the construction of a 26-km-long tunnel, a national museum, state roads and a very large waste water treatment plant, projects for both public and private sector owners.

Most recently the authors have collaborated on a major dam seepage remediation project in New Zealand, described by Bruce and Gillon (2003). The alliance approach has been adopted to procure the most responsive contractor and to create the contractual and management framework. The authors believe that alliancing has the real potential to offer real benefit to the specialist geotechnical construction industry in North America, especially on particularly large and technically challenging projects.

2. Purpose of the Paper

A broad overview of a project alliance is provided covering:

- reasons for its use
- what it is
- which projects are particularly well-suited
- philosophy behind “gamebreaking” performance (the basis for alliances)
- key features

There is a hidden trap in alliances that the more process-driven the participants are in creating alliances, the more they reduce the probability of achieving outstanding results. Project Alliance jargon is used throughout the following discussion and the first term is “gamebreaking.” Project alliances have traditionally used terms such as “outstanding” or “breakthrough” to describe objectives, results and performance of high performance teams. The term “gamebreaking” is used to mean similar step changes in outcomes, but with an emphasis on the sense of a sporting context where a team is looking for opportunities to break traditional approaches to a game to gain *significant and unprecedented advantage*.

3. Reasons for Project Alliances

Many owners to a large extent set themselves up unwittingly for the technical, contractual and quality problems which often follow. The bid processes and contractual frameworks for many projects drive contractors to adopt the following strategies:

- minimize lump sum prices in order to win the bid – usually through reduced margins;

- find ways to shift risk back to owner;
- seek out weaknesses or ambiguities in the contract, specifications and scope;
- find ways to increase revenue; and
- exploit change and delays to maximize profit opportunities.

In other words, owners are adopting selection and contracting practices that create commercial drivers for contractors to behave in a way that is directly opposite to the behaviors the owner — and indeed most contractors — would actually prefer to see.

The biggest failing, though, is that paper becomes the governing form of communication. Paper is the medium for project requirements, specifications, scope, allocation of identified risks, commercial outcomes and dispute resolution. Many contract documents (if not all) are completed in a rush, cut and pasted from the last job and likely to contain human errors. This human error factor is exploited when parties to a contract have experienced genuine difficulties and are therefore having to negotiate commercial positions.

There are, of course, many cases of outstanding success under conventional bidding processes, but these are most often attributed to the chemistry of the individuals from the respective teams. One of the key drivers for adopting an alliance approach is not leaving to chance whether or not the team will click. Rather, the owner is being intentional in having the parties build the right chemistry and work as a team to proactively pursue gamebreaking performance by selecting the team based on chemistry, experience and track record (and not price) and establishing a commercial framework where the only way to increase profit margins is through delivering outstanding results.

4. Definition of a Project Alliance

Simply, a Project Alliance is a project delivery strategy where owner and commercial participants align their objectives to:

- maximize performance;
- proactively manage risk;
- reduce cost; and
- achieve outstanding results in specific key project objectives.

More specifically, a Project Alliance can be defined as: *an integrated high performance team selected on a best person for the job basis; sharing all project risks with incentives to achieve gamebreaking performance in pre-aligned project objectives; within a framework of no fault, no blame and no dispute; characterized by uncompromising commitments to trust, collaboration, innovation and mutual support; all in order to achieve outstanding results.* (The reader is encouraged to reread this definition: it does contain several radical concepts!)

The unique feature of a project alliance is the synergy created between the selection of the commercial participants, the core alliance principles, the clarity and alignment of project objectives and the commercial framework, which all drive the pursuit and delivery of outstanding results. In short:

- participants are selected on capability, approaches and systems skills (as in traditional evaluation processes) and more subjective assessments, such as enthusiasm, commitment, chemistry with ownership and likelihood of the combined team delivering outstanding results. Price is not typically a part of the selection process;
- a commercial framework is created that drives *best for project* decisions that are consistent with, and create an environment of, gamebreaking performance and outstanding rewards for all participants;
- the participants intentionally seek to align owner's and contractor's objectives and to cascade this alignment down through alignment between individuals, procedures, culture, and behaviors;
- there is a single integrated high performance project team selected on a "best person for the job" basis;
- all risks are shared and all participants are jointly responsible to deliver every aspect of the alliance;
- there is no fault, no blame and no dispute amongst participants; all decisions are made unanimously.

5. Particularly Well-Suited Projects

The choice of any given procurement approach to deliver a project should only be made after a detailed and carefully considered risk analysis which considers all of the objectives, opportunities and risks involved in successfully delivering the project. Not all projects are suited to an alliance approach. Project alliancing is best suited to those projects where the traditional *risk transfer* strategy is not appropriate. In many projects, outcomes can be enhanced and the project optimized by embracing risk through collaborative and co-operative contracting as opposed to the traditional *blind faith* transfer or shifting of risks to others.

Project alliancing is particularly well suited to projects involving:

- elements of the unknown, particularly in terms of the technology, processes and methodologies to achieve defined objectives;
- a high degree of complexity in design, construction, technology, development, or in the number of interfaces with other parties and which cannot be satisfactorily or sufficiently scoped and specified at the commencement of the project;
- radical or rapidly developing or expanding technology which may influence time, cost or performance objectives;
- overly aggressive, if not impossible, project schedules which require flexibility in innovation and approach as external influences, including economic, political or stakeholder considerations, dictate timeframes that do not permit the project to be sufficiently scoped or specified prior to the commencement of the project;
- a desire to efficiently engineer value by incorporating delivery innovations, constructability and operability into the earliest possible stages of the definition, design, development or documentation. To this extent it is generally the case that up to 65% of the cost of the project is determined during the definition and initiation phases of a project where less than 5% of the project cost is expended;

- the necessity for innovation and step-change developments in design, technologies and construction methodologies to reduce the capital cost of a project to enable a product, commodity or service to be delivered at an economical cost, or within budget, to enable a project to be viable;
- stakeholder or external project interests or influences that have the capacity to broadly impact the project objectives, but where if addressed and concentrated on in a co-operative team approach can lead to gamebreaking outcomes; and
- where the experience and expertise needed to deliver a project are spread either throughout an owner’s or contractor’s organizations, or across the world, and there is a need to harness that expertise into one team throughout the project.

6. “Gamebreaking” Performance

It is a high risk undertaking to summarize the philosophy behind *gamebreaking* in a few paragraphs. However, the following summary is provided as an introduction.

If a company or individual chooses to go for a gamebreaking result, a way to do this is to declare it up front. In other words, clearly and openly articulate the outcome you are intending to deliver. The trick is in having this intended outcome, or goal, be believable. If the individual or relevant team regards it as impossible then it will not drive actions and behavior consistent with that goal. Similarly it needs to be worthwhile and meaningful for the individual, not just the team.

The most direct place that this philosophy impacts a project alliance is the way project objectives are defined. Ideally, objectives are distinguished in two categories:

- **minimum conditions of satisfaction** (sometimes referred to as “business as usual”) are the minimum standards that would have the owner regard the project as a success, and would typically but not necessarily reflect the owner’s expectations if they delivered the project through a traditional approach; these are predictable and need to be counted on to meet the business plan or business case for the project; and
- **gamebreaking performance objectives** (sometimes referred to as “breakthrough” or “outstanding performance” objectives) are real business objectives for the owner that are not predictable and constitute a genuine commercial benefit for the owner. The owner’s organization is genuinely committed to achieving them, even if they do not necessarily know how they can be achieved; by definition, if they know how they will be achieved, they cannot be gamebreaking.

To illustrate this in more detail, “minimum conditions” and “gamebreaking” objectives can be compared in a number of typical “Key Result Areas” as follows:

| KEY RESULT AREA | MINIMUM CONDITIONS | GAMEBREAKING PERFORMANCE OBJECTIVES |
|-----------------|--------------------------------|---|
| Cost | Deliver project within budget. | Deliver the project for 20% under budget. |
| Schedule | Deliver the project on time. | Deliver the project six months early. |

| KEY RESULT AREA | MINIMUM CONDITIONS | GAMEBREAKING PERFORMANCE OBJECTIVES |
|-----------------|---|---|
| Quality | Deliver the project to agreed specifications (workmanship and design). | Deliver the project to agreed benchmarks of outstanding workmanship. Design the project to agreed benchmarks of high levels of integration with existing and adjoining assets. |
| Community | The project is not delayed by community or stakeholder opposition to the project. | There is widespread community advocacy for support for the project. |
| Operability | Operators and end users are generally satisfied with the delivered asset. | There is widespread support and high levels of satisfaction with the delivered asset. |

One key quality of gamebreaking is that it is implicitly creative and participants must not fall into the trap of regarding project alliances in a process driven or “tool-kit” way. The authors are strong believers in starting each alliance with a blank sheet of paper. Although some processes, workshops and features are broadly similar and should be adhered to, it is critical that each alliance designs the project alliance approach, objectives and processes to meet its specific and unique characteristics. Apart from being more likely to deliver the desired results, such freshness will also ensure more genuine ownership by the members of the team.

The few alliances that have failed are typically the second alliance that a group of companies undertake together. The fault arises when the individual team members who were on the first alliance insist on using the same practices, wanting to repeat them since they worked on the previous alliance even though they may not be appropriate for the second alliance. The new team members do not necessarily understand why they are being used and will not feel any sense of ownership of what is being imposed on them. The team members from the first alliance are not being creative, and the new team members feel no commitment to what is being asked of them. That is not a project alliance.

7. Core Features of Project Alliances

There are six core features of project alliances:

- i. Principles. A clear set of desired outcomes, behaviors, values and culture, leading to delivering a gamebreaking performance. These become a contractual requirement and are prominent in the alliance agreement. There must be common definition on the following issues: equity and risk share/gain; “best for project” decision-making; integration of cultures; open honest communication;

- culture of no blame; collective responsibility and accountability; trust, integrity and respect; proactive pursuit of innovation; mutual support.
- ii. Team and Leadership Structure. Project alliances have a single integrated project team with team members selected on a best person for the job basis. There should be no allegiance to have a particular position filled from the traditional provider of that role. An immediate benefit of one integrated team is the cost saving from not having duplication of roles and person to person marking. In a project alliance, there is one team, one schedule, one cost control team and one design team. This is fine in theory; the challenge is making this work in practice. A key element in implementation is the leadership structure of the project, as introduced in Figure 1. The key elements of this leadership structure are the Alliance Leadership Team and the Alliance Management Team.

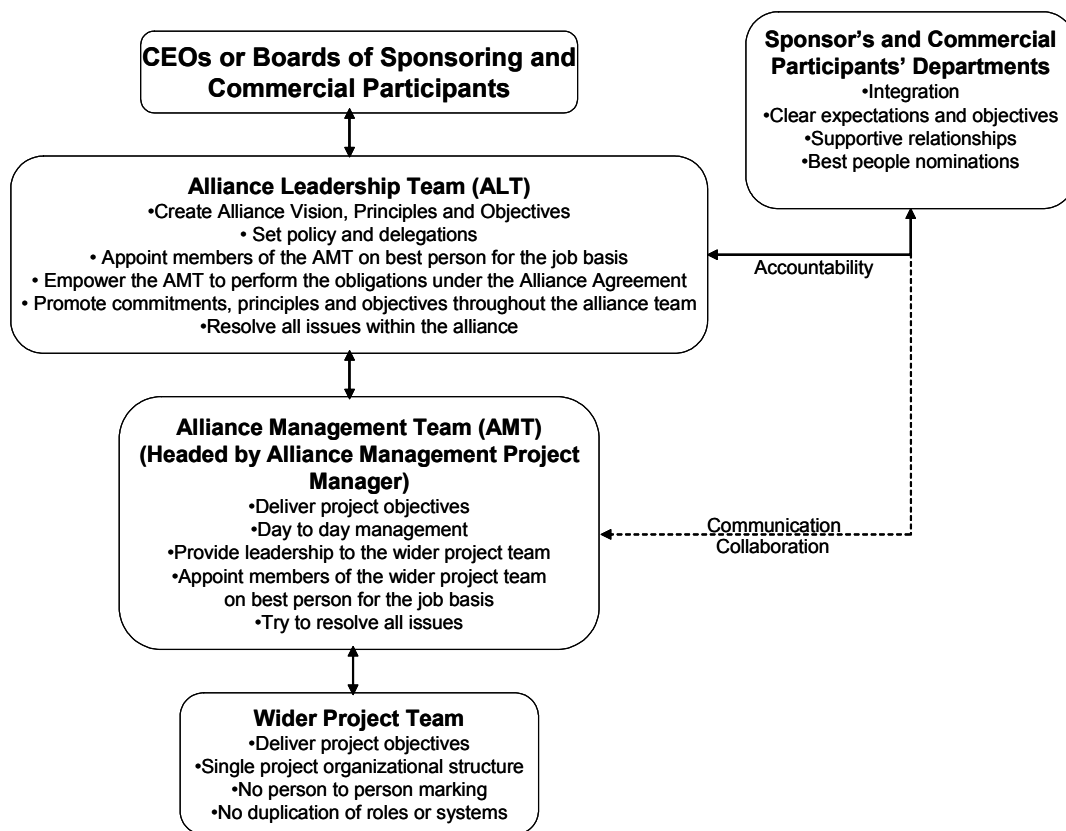


Figure 1. Alliance leadership structure.

- iii. Alliance Agreement. It is the alignment on, and commitment to, the alliance principles that influence the behaviors of the participants and the relationships they have with each other, to the project and to its risks. In addition, they shape the features and structure of the project alliance and the alliance agreement itself. Features that characterize an alliance agreement are: obligations and decisions are collective and unanimous; no fault/blame or dispute; commercial framework is logical and consistent and incentivised and; financial

transparency. One way of assessing the innovativeness of project teams is to assess at what point they give up looking for solutions. The difference between an extraordinary team and a good team is, quite often, the extraordinary team stays in the game longer.

iv. Commercial Framework. Project alliances' commercial frameworks are an area of particular interest since it is a primary point of difference from other delivery approaches. It is also one of the most critical areas to get right in the creation of an alliance. Any misplaced assumptions, can introduce win/lose situations, which could strike at the heart of the alliance integrity. A fundamental design principle of a project alliance commercial framework is that if one participant wins, all win; or if one loses, all lose. Gamebreaking performance will deliver gamebreaking returns for all participants. Normal or business as usual performance will deliver "normal" returns for all participants and poor performance will deliver poor returns for all participants.

v. Target Outturn Cost. In a traditional lump sum contract there is only one certainty regarding the contract lump sum: the starting price. It has little connection with the actual final cost to the owner for delivering the project. In a traditional contract a contractor has three main ways to maximize his profits:

- to drive his own costs down, typically through quality or scope reduction;
- to increase his revenues through scope changes and variations and therefore push up the owner's costs, particularly if the contractor is not able to reduce his costs;
- to find ways to increase efficiency — if at all feasible within the confines of the project.

The Alliance Agreement does not contain a contract sum. It has a target outturn cost that is aligned on jointly by all alliance participants over the first few months of the project. A key point of difference in developing the target outturn cost is the level of communication and shared understanding and depth of joint risk and contingency analysis. As opposed to an *over the wall* separate office approach in traditional projects, in a project alliance, the team are working together in the same office developing a single estimate jointly and collaboratively.

vi. Participant Selection. The process is designed to achieve the following outcomes (as shown in [Figure 2](#)):

- increase the momentum of the project and avoid the hiatus in activity that typically follows selection processes, where project teams are only then starting to get to know each other and build relationships;
- go beyond traditional salesmanship by meeting the actual nominated team members at interviews and selection workshops and gaining a thorough knowledge of what it is like to work with each other;
- rigorously evaluate the participant teams against objective and subjective criteria to establish an aligned view amongst the selection panel on which participant is most likely to deliver gamebreaking performance;
- ensure that the participants genuinely think about their proposed approach to the project and do not produce *off the shelf* proposals;

- meet the highest standards of probity and public sector bidding requirements;
- select the participants on their ability to deliver gamebreaking performance objectives - not on price.

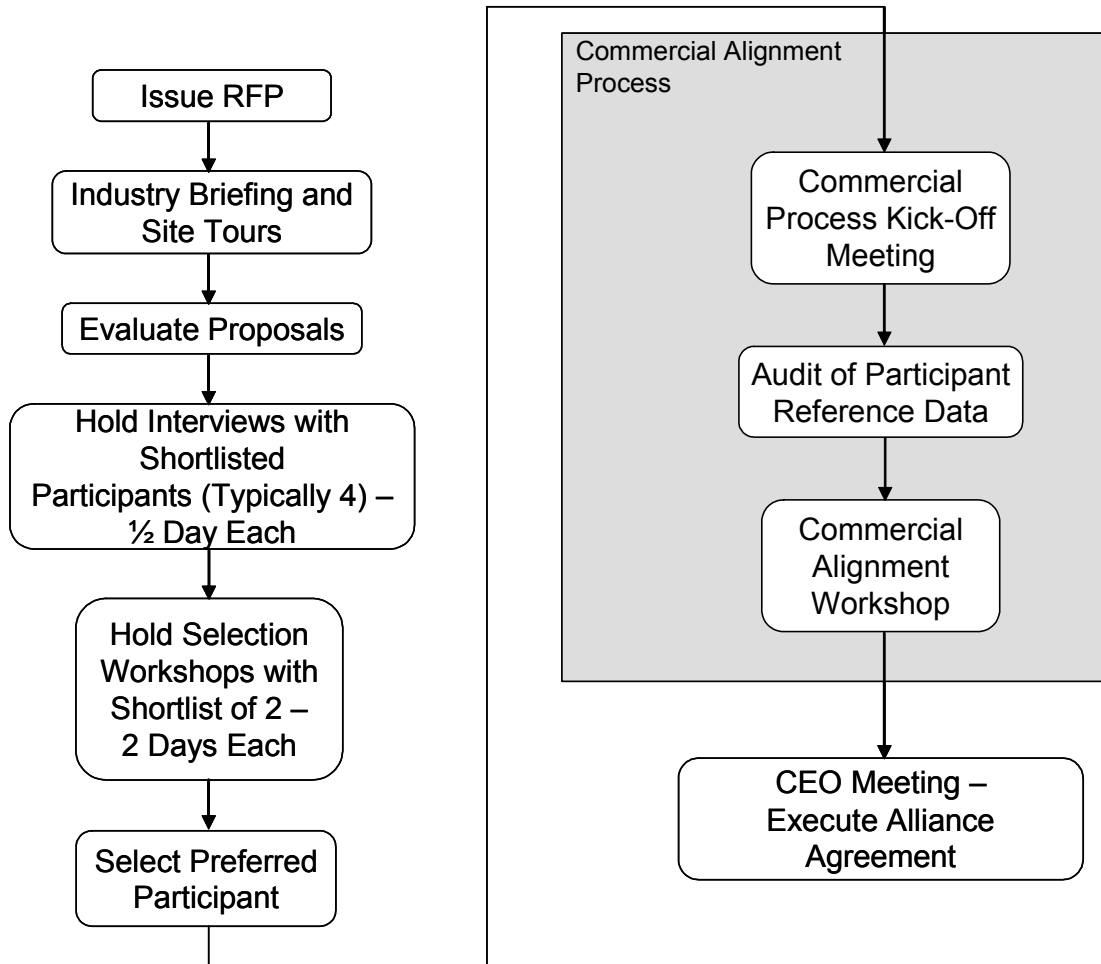


Figure 2. Steps in selecting the commercial participant.

It is common that when the project alliance encounters a major breakdown or challenge, participants comment that it was the relationships, shared understanding and depth of alignment developed during the selection process that provided the basis for them breaking through the challenge.

8. Concluding Remarks

This paper provides an overview of the key elements of project alliances and have shown how they can be used to foster gamebreaking performance.

The key tangible and intangible benefits of a project alliance approach are:

- there is a significantly higher probability of outstanding, tangible business results for the owner through:

- cost reduction
- early completion
- improved quality of the asset through enhanced workmanship and finish
- improved operability

and for the commercial participants through:

- enhanced profit margin;
- enhanced market place reputation;
- commercial participants' interests being genuinely aligned with the owner's critical business objectives through the commercial framework and gainshare regime;
- all energies being focused on performance and improvement, not exploiting the contract, since the only way for commercial participants to increase profit margin is delivering gamebreaking performance;
- outstanding risk management, since project alliances are not only better equipped to analyze the real risks of the project, they are also better equipped to deal with the consequences;
- team members experiencing considerable personal development and growth and significant job satisfaction;
- participating companies experiencing significant organizational development and enhanced long-term working relationships that extend beyond the alliance.

For most organizations creating the first project alliance both as a participant and as an owner is stepping into the unknown. However, once in an alliance, one begins to genuinely appreciate the possibilities and opportunities that are created and which cause the sometimes evangelical enthusiasm in those who have been involved in them before.

There can be all the proof and logic in the world; nevertheless the authors recognize and appreciate the most difficult part is the first step — taking that leap of faith.

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