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Evolution of Relational Contracting in Construction:
Project Delivery Methods Beyond Partnering
(Paper 112_S)

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Abstract

Improving formal and informal relationships between parties is a major aspiration of every construction project. The United States Army Corps of Engineers led the way in developing relational contracting methods in the 1980s with the introduction of partnering. While partnering remains the Corps' standard, relational contracting continues to evolve. Advanced relational methods were pioneered in the 1990s and 2000s in countries such as the United Kingdom and Australia, quickly becoming standard practice in their public sectors. In the last three years, the commercial publication of two major standard form boilerplate contracts has made this new generation of relational contracts widely available in the United States. Introducing specific contractually-binding requirements for equitable relationships, risk sharing, and integrated project delivery, these contracts offer significant opportunities for a highly collaborative and successful construction project. This paper presents several key practices of modern relational contracts and how implementation of these practices can benefit project success by reducing cost growth, improving construction quality, and lowering the risk of litigation.

Introduction

Military construction is an exceptional example of the importance of managing operations between civilian and military entities. Each project is a large and complex undertaking contracted between the federal government and civilian businesses. The United States military makes a vast investment in construction each year; the 2011 Military Construction program for the U.S. Air Force alone is projected to exceed $1.3 Billion (Department of the Air Force, 2010). Receiving the greatest return from this investment requires proper management of each construction project.

However, failing to properly manage relationships has been a continuing problem within the construction industry, causing poor cooperation, limited trust, and ineffective communication (Moore et al., 1992). Relational contracting is a concept designed to address these problems. The U.S. Army Corps of Engineers took a leading role in the use of relational contracts in the 1980s, developing and implementing partnering at the Portland, Oregon (Gerard, 1995) and Mobile, Alabama districts (Sanders & Moore, 1992). The Corps inaugural partnering project was the construction of the Oliver Lock and Dam, which began in 1988 with a partnering agreement between the Corps Mobile District and the construction contractor FRU-CON (Schroer, 1994).

Partnering proved to be a genuine success. A study of Corps construction projects by Weston and Gibson (1993) compared 16 partnering projects to 28 non-partnering projects. The study found that partnering projects achieved much better performance, averaging an improvement of 40-80 percent in the aspects of change order costs, claims costs, total project cost growth, and duration change over non-partnered projects. Recognizing their success, the Corps quickly embraced the philosophy of partnering and made it a standard way of doing business (Schroer, 1994). In 1993, then Commander of the US Army Corps of Engineers Lieutenant General Arthur Williams (1993) set the "policy of the Corps of Engineers to develop, promote and practice partnering on all constructions contracts, and to universally apply the concept to all other relationships."

In the 1990s, partnering also became an established approach to contracting in the United States private sector, the United Kingdom, Australia, and Hong Kong (Bresnen and Marshall, 2000a, b). However, the concept of relational contracting in these markets has evolved much more rapidly than the U.S. public sector. The government of Hong Kong utilizes an expanded form of partnering that utilizes incentivization agreements, and the UK and Australia have developed advanced forms of relational contracting that have become standard practice in public sector construction (Chan et al., 2010; NEC, 2010; Department of Treasury and Finance, 2009).

Advancement in relational contracting in the U.S. private sector has been driven by the concept of Integrated Project Delivery (IPD). IPD contracts were pioneered in 2005 with the Integrated Form of Agreement, developed by Will Lichtig for Sutter Health (Post, 2010). In the last few years, the IPD method has become more accessible than ever with the commercial publication of standard form contracts by ConsensusDOCS and the American Institute of Architects. These model contracts provide a solid baseline for project parties, allowing them to easily complete a comprehensive contract by simply filling in the details of their particular project.

While the use of alliance contracts in U.S. construction is still in an early stage and quantitative performance data is not yet available, AIA has used case studies as a proof of concept. Analyzing six projects from 2004 to 2009 that implemented IPD practices, AIA claims

that every project "met or exceeded the owner's expectations with respect to budget, schedule, design quality, and sustainability and also met the financial expectations of designers and builders" (AIA, 2010a).

Types of Relational Contracts

Generally known as alliancing, the new generation relational contracts utilized by international governments and the U.S. private sector are an evolution of the partnering concept developed and still relied upon by the Corps. Before discussing the specific contracts, it is important to recognize and understand the four major types of single-project relational contracts: project partnering, project alliancing, joint venture, and public private partnership.

Every contract contains an implied commitment requiring each party to not hinder or delay the performance of any other party (George A. Fuller Co. v. United States, 1947). This sets a basic contract standard of cooperation. The objective of partnering is to change this from a standard of non-interference to a team-based standard of mutual benefits. The basis of partnering is the partnering agreement, a noncontractual but formally structured charter in which each party promises to act in the best interest of the project and the project team (Chan et al., 2001). The partnering process utilizes tools such as regular meetings, partnering workshops, team building exercises, declarations of common objectives, and dispute resolution mechanisms. Its goals are to create an atmosphere of communication, problem solving, harmonious working relationships, and shared goals. While this process does deliver mutual benefits, it falls short of guaranteeing that each party will equally benefit (Walker et al., 2002). It encourages a team approach, but gains and losses are still allocated severally, not jointly. Partnering does not replace the obligations to adhere to the formal contract, and it lacks the definite incentives required to elevate collective interests above those of the individual.

Project alliancing differs from project partnering in that it is both a relationship management system and a project delivery system (Chan et al., 2010). Traditional contracting and partnering allocates responsibilities and risk to individually parties that severally incur consequences for success or failure of the project. Alliancing requires a 'joint' rather than a 'shared' commitment; parties consent to their contribution levels and jointly incur rewards or losses (Walker et al., 2000). Three key features define a 'pure' alliance:

1. Parties are all responsible for performing the work and assume collective ownership of risk
2. Participants share in the "pain" or "gain" depending on how actual project outcomes compare to targets
3. The project is governed by a joint body where all decisions must be unanimous

(Chan et al., 2010).

The advanced relational contracts explored under this paper fall under the category of alliances. While they allow some variation from the definition of a 'pure' alliance, they implement all the major ideals.

Joint ventures and public-private partnerships are two other relational contract forms that are not explored in this paper, but are worth mentioning. While alliancing jointly shares the risk and rewards of a project, the parties remain legally independent organizations with separate ownership and management (Gerybadze, 1995). However, a joint venture is the creation of jointly owned entity created by separate organizations sharing their funds, personnel and services. The American Institute of Architects' Document C195 – 2008: "Standard Form Single

Purpose Entity Agreement for Integrated Project Delivery" is a step in this direction, forming the participants into a Limited Liability Company.

Public private partnership does not have a set definition or a standard framework, but is typically defined as a market driven approach for government procurement (Chan et al., 2010). It can take forms such as build-operate-transfer, build-own-operate, leasing, operation and management, equity joint venture, and cooperative joint venture. This concept has been used extensively in the privatization of government services, such as waste disposal, vehicle and facility maintenance, and military housing.

The Contracts

This paper will explore three existing boilerplate contract approaches. Two of American origin: ConsensusDOCS 300 and AIA Document C191-2009 and one from the United Kingdom: NEC3 Engineering and Construction Contract.

ConsensusDOCS describes itself as "a coalition of associations representing diverse interests in the construction industry that collaboratively develops and promotes standard form construction contract documents that advance the construction process" (ConsensusDOCS, 2010). The organization counts 32 associations as part of their coalition, the most notable of which is the Associated General Contractors of America (AGC). ConsensusDOCS 300 *Standard Form of Tri-Party Agreement for Collaborative Project Delivery*, first published in September 2007, is touted as the signature document of their catalog and the first standard construction contract to address Integrated Project Delivery (Perlberg, 2009).

The American Institute of Architects first began publishing construction contracts in 1888, and currently publishes more than 120 contracts and administrative forms for the construction industry (AIA, 2010b). AIA publishes three series of Integrated Project Delivery documents, differentiated by how the parties contract with each other. Published in November 2009, AIA Document C191-2009 *Standard Form Multi-Party Agreement for Integrated Project Delivery*, like ConsensusDOCS 300, is a three party agreement between the owner, designer, and constructor (AIA, 2009). AIA's other IPD contracts allow for separate agreements between owner and designer and owner and constructor, as well as the formation of the three parties into a Limited Liability Corporation.

The New Engineering Contract (NEC) is a set of standard contract documents developed by the Institution of Civil Engineers, a professional organization based in the United Kingdom. Now on its third revision (NEC3), it was first published in 1993. In 2006, the United Kingdom's Office of Government Commerce recommended the NEC3 suite of construction contracts for use by public sector procurers (OGC, 2006). The Engineering and Construction Contract (ECC) provides a cooperative agreement between an owner and constructor, and is the most popular document of the NEC3 series (Gerrard, 2005). The ECC provides many relational contracting tools when utilized with optional clause X12: Partnering. (NEC3 refers to this option as partnering, but it more closely resembles the definition of alliancing.) When referring to the NEC3 ECC, this paper will include Option X12 as part of the contract.

Key Relational Practices

These contracts utilize several key principles that have been shown to contribute to improved projects. Several studies have shown significant links between relational contracting

activities and project success. Larson (1995), utilizing a data set of 280 construction projects, related several success factors (such as schedule, cost, technical performance, and avoiding litigation) to the level of relationship between the parties (from adversarial to full partners). The study found a significant positive effect on success when moving from an adversarial project to a relational one, and from an informal relational project to a formal relational contract. In a later study using an expanded data set, Larson (1997) related individual relational contracting principles to the same indicators of success. A few of the strongest predictors for project success were establishment of a problem-solving process, top management support, provisions for continuous improvement, and establishing the assumption of a fair profit for the contractor.

In another study, Chan et al. (2004) performed a survey of critical relational contracting success factors in the Hong Kong construction industry. Their regression analysis of the results identified five significant underlying factors contributing to overall success:

1. The establishment and communication of a conflict resolution strategy
2. A willingness to share resources among project participants
3. A clear definition of responsibilities
4. A commitment to a win-win attitude
5. Regular monitoring

Cheng and Li's (2002) study of construction success factors found the top ranked factors for the application of relational contracting are (in order of most important to least): open communication, mutual trust, effective coordination, top management support, and joint problem solving.

The basic principles of successful relational contracting are implemented in actual contracts by several basic methods. *Joint Decision Making* implements the principles of mutual trust, top management support, effective coordination, and a problem-solving process. When *Joint Decision Making* cannot resolve an issue, a clear *Dispute Resolution Process* provides a strategy for conflict resolution. *Pain/Gain Sharing* addresses principles such as fair profit, shared resources, a win-win attitude, and continuous improvement. The principles of mutual trust and willingness to share resources (and risk) are also implemented with *Shared Risk.* The similarities and differences between the contracts in each of these categories are summarized in Table 1.

Table 1: Contract Comparison

	ConsensusDOCS 300	AIA C191 – 2009	NEC3 ECC w/ X12
Joint Decision Making	-Executive team: Decide by consensus -Management team: **No formal decision process**	-Executive team: Decide by unanimous decision -Management team: **Decide by unanimous decisions**	-Executive team: No formal decision process
Shared Risk	-Waives consequential damages -Shared liability option *or* **-Traditional liability option w/Optional liability limits**	-Waives consequential damages -Shared liability	-Clear division of risk
Pain/Gain Sharing	-Gain sharing distributed by agreed percentages -**Optional** pain sharing --Agreed percentages --**Optional** loss limits	-Gain sharing distributed by agreed percentages -Pain sharing --Agreed percentages --Loss limits	-Gain sharing distributed by agreed percentages -Pain sharing distributed by agreed percentages
Dispute Resolution	-Executive team decision *before* -Mitigation *or* Mediation *before* -Binding Arbitration *or* Litigation	-Executive team decision *before* -Mediation *before* -Binding Arbitration, Litigation, *or* Any Agreed Method	-Executive team decision *before* -Binding Arbitration *before* -Litigation

Joint Decision Making

ConsensusDOCS 300 utilizes two groups to facilitate the project: the Collaborative Project Delivery (CPD) Team and the Management Group. The CPD Teams meets at least weekly and executes the daily activities of the project, while the Management Group is the decision making body. Both groups are comprised of three core individuals selected to represent the Owner, Designer, and Constructor. In the Management Group, each representative has full authority to make decisions that bind the represented organization. The CPD Team is expected to add design consultants and trade contractors through joining agreements as the project progresses. Other members may also be brought into the Management Group and fully participate, but ultimate decision making power resides with the three original members. The Management Group is designed to make decisions in the best interest of the project as a whole, not each member's own interest. To this end, all decisions made by the Management Group are by consensus. If consensus cannot be reached between the three core members, the owner reserves the right to make a final determination. There is one exception, with the designer reserving the right to decision in cases of life, health, property and public welfare that require a licensed design professional. In cases of a unilateral decision, the other parties may utilize the

dispute resolution provisions of the contract. No formal decision making process is outlined for the CPD Team.

AIA Document C191-2009 uses a very similar process, creating a Project Executive Team for executive oversight and a Project Management Team for day-to-day management. Each group is created by representatives from the Owner, Architect, and Contractor, along with any additional parties decided at the beginning of the project. Both teams operate by unanimous decision of all members. A failure to reach unanimity by the Project Management Team is brought to the Project Executive Team. If the executive team cannot reach a unanimous decision, the owner may issue a written directive that the parties shall comply with. In the absence of a unanimous decision, a matter can be submitted to the contract's dispute resolution process.

It is difficult to ascertain a difference of practice between ConsensusDOCS 300's decision by "consensus" and AIA C191's unanimous decision making. Consensus is a term debated in the political field, and it can be viewed as a continuous variable ranging from simple majority to unanimity (McClosky, 1964). A generally accepted definition of consensus would indicate a finding that is nearly unanimous and not just a majority opinion (D'Amato, 1970; Wright, 1966). The project parties would likely operate by this definition, but a different term (or a clear definition) would remove ambiguity from the ConsensusDOCS document.

The NEC3 Engineering and Construction Contract also creates a joint management group, but does not provide a formal process structure. The ECC requires the project parties to create a Schedule of Partners, identifying the main stake holders that will have say in the project. These Partners select the members of the Core Group. The Core Group, led by the owner's representative, acts and makes decisions on behalf of the Partners within guidelines set at the beginning of the project. The contract does not provide formal processes for the Core Group, allowing it to set its own procedures.

Shared Risk

ConsensusDOCS 300 offers two risk allocation options: Safe Harbor Decisions or Traditional Risk Allocation. The former option releases the parties from liability for "risks arising from collaboratively reached and mutually agreed-upon. Project decisions made by the Management Group (Safe Harbor Decisions)," if acting in good faith and not in willful default of the contract (ConsensusDOCS, 2007). The traditional risk option holds each party liable for its own "negligence and breaches of contract and warranty," but contains optional clauses to set individual monetary limits on the total liability of the designer and constructor. Regardless of the risk allocation option chosen, the contract requires the parties to waive the right to claims of consequential damages against each other.

In contrast, AIA C191 waives all claims except in cases such as willful misconduct, express warranty obligations, claims for payment of amounts due, damages filed against the project by outside parties, express liquidated damages clause, or when insurance proceeds are available for the claim. The contract also includes a waiver of consequential damages and rights of subrogation, as well as indemnity clauses for property damage, bodily injury, and vicarious liability. All claims that are permitted by the contract must be pursued through the agreed dispute resolution process.

The ECC does not have the same kind of risk sharing. It clearly outlines the risks borne by the owner, and places all other risks on the constructor. Each party indemnifies the other

against claims due to an event which is at his own risk, except in cases where an event at the risk of one party contributes to an event at the risk of the other.

Pain/Gain Sharing

ConsensusDOCS 300 provides for pain or gain sharing between the parties. Gain sharing is a fixed section of the contract, and the parties determine agreed percentages or other basis for sharing savings if the project costs are less than the Project Target Cost Estimate (PTCE). ConsensusDOCS allows for two options in case the project costs exceed the PTCE, allowing for the costs to be either borne by the owner or shared among the three parties. Again, the agreed percentages or other basis for sharing are to be determined by the parties and indicated on the contract. There is also an optional provision to limit the designer's and constructor's loss limit to their respective overhead and profit, or the potential for loss can be unlimited.

AIA C191 uses the same method for gain sharing, allowing the parties to agree upon share percentages for savings realized by actual costs less than the target cost. AIA also includes an option for pain sharing, but with losses for designer and constructor strictly limited to their overhead and profit.

The ECC also implements pain and gain sharing in its target cost contracts. Using share percentages, the contractor is paid a share of the savings or pays a share of the excess cost.

Dispute Resolution

A three-step dispute resolution procedure is utilized in the ConsensusDOCS 300 contract, with some steps depending on the selection of the parties at the formation of the contract. A dispute that cannot be resolved between the directly involved parties is first submitted to the Management Group for resolution. If the Management Group is unable to resolve the issue, the dispute will move to either mitigation or mediation. Mitigation utilizes either a project neutral or dispute review board to issue a nonbinding ruling on the dispute, while mediation brings in a third-party to help bring the project participants to an agreement. If neither of these options brings about a settlement, the binding resolution process is used. The contract offers two options, litigation in state or federal court, or arbitration using a pre-agreed arbitration method.

AIA C191 uses a dispute resolution committee, formed from senior managers from each party and a designated neutral party (known as the "project neutral") to resolve disputes that cannot be settled by the Project Executive Team. The project neutral uses pre-established mediation procedures to mediate a resolution of the dispute. If the parties fail to come to an agreement from mediation, the contract offers arbitration by the project neutral, arbitration through another entity, or any other method pre-agreed to by the parties.

When using the dispute resolution option of the contract, disputes in an ECC project that cannot be resolved by the project parties proceeds directly to arbitration by an adjudicator appointed by the parties at the formation of the contract. The adjudicator's decision is binding, but parties can refer it for review and final decision to governmental tribunals.

Summary

Project alliancing, the next evolution of relational contracting, also presents some significant difficulties and potential problems along with its benefits. It requires considerable

involvement and commitment of personnel and top management to support the process and to maintain the strong personal and corporate relationships required for a successful project. Along with the cultural shift required from traditional contract relationships, this could require significant costs for training, education, and labor hours (Ross, 2001). Shared risk environments, waiving claims and liability, also present a major challenge for conventional liability insurance. Providing robust insurance products for shared risk projects requires a fundamental change in the conventional underwriting approach, and while some insurers are addressing this problem, insurance difficulties may be common until specialized policies are offered (Post, 2010). Similar problems may be encountered with project bonding and surety relationships that normally operate in a traditional claims environment.

If these difficulties can be overcome, all of these contracts utilize key principles that, when properly implemented, can significantly improve project relationships. In particular, ConsensusDOCS 300 and AIA C191 both offer robust relational contracting tools, as well as a complete, comprehensive, and usable contract. The ConsensusDOCS and AIA contracts are clearly more dedicated to relational contracting methods than the NEC3 ECC, not only offering more methods but more fully developing them in the contracts. While both contracts are quite similar, ConsensusDOCS 300 offers more tools and flexibility in the preceding categories than AIA C191.

U.S. military construction, led by the Army Corps of Engineers, was a leader in the development and implementation of partnering, but is currently a spectator in the field of alliancing. The private sector has supplied two excellent alliance examples in ConsensusDOCS 300 and AIA C191. To stay on the cutting edge of construction contracts, the U.S. military should use one of these boilerplate contracts, in whole or in part, to develop a federal alliance contract. Some alliance practices may be inhibited by the current Federal Acquisition Regulations, but now is the time for the military to investigate and resolve these discrepancies. By developing and beginning to implement an alliance contract now (at least on a test basis), the U.S. military can take advantage of an excellent opportunity for construction value and efficiency in a time of economic difficulty.

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