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The Art and Science of Complex Contracting

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Trevor L. Brown, Matthew Potoski, and David M. Van Slyke, Complex Contracting: Government Purchasing in the Wake of the US Coast Guard's Deepwater Program (Cambridge, 2013). 268 pp. \$43.81 (hardcover), ISBN: 9781107038622.

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In 2002, the U.S. Coast Guard launched an innovative and highly complex contracting relationship with a Lockheed Martin and Northrup Grumman joint venture. The relationship was designed to overcome the “rigid regulations and red tape that all too often killed contracts through a thousand small wounds” (1). By April 2007, after a firestorm of negative media, whistleblowing, and impending congressional hearings, the Coast Guard returned to “buying assets one at a time, scrambling to hire more contract managers, and relying on a traditional regulatory and enforcement contracting approach” (2). The procurement experiment in innovation, flexibility, and cost-saving failed after just 5 years.

Through this complex contracting case, Brown, Potoski, and Van Slyke aim to bridge the divide between academics and practitioners. They draw from theory and prior research to help explain the events that transpired in the case without overreliance on technical terminology. This is more clearly described below. Their ultimate objective is to provide insights that will improve the purchasing process for both buyers and sellers involved in complex products and services. They accomplish these objectives and several others through a detailed case study analysis with both rigor and depth that provides real value to scholars, students, and practitioners.

The presentation of the case, and subsequent analysis, anchors itself to two primary approaches for contracting. The rule-based approach requires the government buyer to identify *a priori* all the specifications and terms required, while the vendor simply agrees to meet those terms for payment. The relationship-based approach allows the buyer and seller to engage over the long term to meet evolving mutually beneficial expectations. Exact specifications and terms are determined over time, together. This evolution is enhanced by the relationship between the two that encourages a win-win solution over the long haul.

Both approaches have merit and both are deeply flawed. The relationship approach, stemming from the New Public Management literature, suggests the promise—a way forward that transcends bureaucracy—and overlooks short-sighted, zero-sum games. This relational approach risks uncertainty and potentially divergent stakeholder goals early on, in favor of the longer-term understanding gained through true partnership. The rule-based approach serves the conservative baseline by minimizing risk to both parties. It protects and limits, but provides clarity and accountability. The authors seek to ultimately combine the best of these two approaches to serve the interests of both buyer and seller, especially for complex contracts where rules are difficult to foresee and relationships will be strained after the so-called honeymoon.

The authors first present their theoretically grounded framework for managing complex contracts (Chapter 2). Chapter 2 is a gem in and of itself, as it explains, “Our aim in this chapter was to suggest a way for buyers and sellers to approach complex contracting, diagnose the grounds for both its win-win and lose-lose potential, and begin to consider how to better structure the rules and relationships underlying complex exchanges” (54). They then introduce us to the Deepwater program (Chapter 3), setting the tone and background for their analysis of the complexities of the contracting process that is focused on rules (Chapter 4), performance incentives (Chapter 5), and behaviors (Chapter 6), before plotting a path forward in terms of management strategies for complex contracts (Chapter 7).

The theoretical framework presented in Chapter 2 sets the stage for the case, but it also serves as an excellent graduate level primer on contracting, ideally suited for courses on public management (e.g., for a week on contracting). First, the authors differentiate between simple and complex products. Next, they present the difficulties with contracts designed for complex products, such as the Deepwater project. Positioning contracts as sets of rules, they differentiate between

product rules and exchange rules. Then, the authors discuss the challenges of incomplete contracts, which motivate the need for a relational understanding of contracts, where they rely on game theory and the classic prisoners' dilemma. By distinguishing between rule-based and relationship-based approaches to solving complex contracting dilemmas, the authors explore Ostrom's common pool resources, Williamson's social interactions governance, and Axelrod's tit-for-tat strategies, among others in a survey of the governance landscape. The problem's "lock-ins" and uncertainty create a rule-based approach that implies the need for collective action solutions, fraught with well-illustrated relational concerns. The necessary conditions for this desired behavior require buyers and sellers to be engaged in repeated interactions, information symmetry about goals and behaviors, and alignment between parties regarding the future and reputational effects. Rules rarely encourage such things.

After establishing the theoretical framework, Brown, Potoski, and Van Slyke (2003) describe the Coast Guard's need to upgrade its fleet of air and sea vessels. They begin with an overview of the history of the Coast Guard and the myriad activities and functions with which it is tasked: defense readiness, migrant and drug interdiction, aids to navigation, search and rescue, enforcement of fishing laws and marine safety, environmental protection and other law enforcement activities. For much of their history, the agency was spread thin, earning it a reputation for thrift while maintaining high performance levels. Eventually, however, low-cost "just in time" repairs were not sufficient to address underlying structural problems with their equipment.

The Deepwater program represented a big picture solution to the Coast Guard's decaying fleet and the problems inherent in the traditional procurement process. Operating under the Clinton White House, a central tenet of the Deepwater plan was to bundle purchases into single, large contracting arrangements to align systems across the Coast Guard's many assets and actions. They reinvented the traditional federal piecemeal procurement process, proposing instead a lead systems integrator (LSI) to serve as general contractor responsible for the "system of systems." This contractor would design the system, contract for parts, manage subcontractors, and assemble product components. The general contractor selected for the job, Integrated Coast Guard Systems (ICGS), was a new joint venture of two of the largest defense contractors in the industry, who would partner with the Coast Guard under Deepwater. The rise of public-private partnerships, the wave of government reinvention in the 1990s, the New Public Management movement, and the National Performance Review all supported the Deepwater procurement conceptualization to eschew the

traditional and wasteful procurement process of one-off purchases, which were in favor of the "system of systems" approach of bundling various asset needs into one complex "product" with many varied components deliverable over a much longer time frame.

This new approach promised to lower contract management costs, increase efficiencies and economies of scale and scope, and focus both buyer and seller on systems integration to improve mission achievement. Unfortunately, they moved a bit too far and too quickly from the safe, rule-based approach to the complex relational approach in the midst of many other moving parts. They moved from procurement of many simple products, employing simple contracts with many sellers, to one massive complex product, requiring a similarly complex contract, with a single seller relying on the promise of a long-term mutually beneficial relationship. Measuring success of the program, the contract and the relationships proved difficult; they needed rules.

The next three chapters represent the heart of this study. They vividly illustrate the role that rules, performance incentives, and organizational behaviors play in complex contracting. The savings envisioned by the systems of systems gave way to organizational realities, politics, and confusion. The authors detail the three-tiered contracting process from the overarching Indefinite Quantity Contract, to the agency task orders and the integrated project teams, explaining the logic and necessity of each. However, the real value of the chapter lies in the discussion of intersections between the three. As incomplete rule-based contracts gave way to the relational approach, competing values, capacity, mandates, time horizons, cost understandings, and decision parameters quickly reduced the theoretically efficient three-tiered rule-based system to a nightmare of inter- and intra-organizational ineffectiveness.

Performance based incentives proved equally problematic. First, planning took much longer than expected, delaying implementation. Second, performance outputs, measurements, and awards were never fully articulated. As the authors highlight, "The most measurable ICGS outputs from that time were a series of standards and measurement procedures for the Deepwater performance award system itself!" (157). Awards based on ratings of "good" or "marginal" were ambiguous. Traditionally, the Coast Guard relied on well-understood outcome measurements to gauge their success, such as the percentage of lives saved in search and rescue, or the percentage of migrants interdicted, but determining whether improvements in these outcome measures resulted from Deepwater was nearly impossible. Aligning incentives, performance, and rewards through rules proved infeasible across all the varied stakeholders in the new system of systems.

Behavioral solutions fared about as well. One Coast Guard leader suggested, “I honestly felt, and still think today, that the best contracts are tied to the healthiest relationships, where the people have the ability to be open, honest and trusting” (183). However, in practice, healthy relationships can be strained when there is asymmetric information and money at stake. When asked about performance problems with the contract, a respondent described a change that ICGS made at the bequest of the Coast Guard to “save a nickel.” ICGS made the change, even though they knew that the change would ultimately lead to worse outcomes. If ICGS had pushed back, how would the Coast Guard know that ICGS was “behaving consummately” rather than “perfunctorily”? They had not yet developed the win-win shared outlook that the long-term relational approach promised. They were stuck in the zero-sum, rule-based approach, despite the appearance of a long-term relationship. The authors framed this discussion in terms of three periods, the honeymoon, the fog, and the divorce, where at first both parties assumed consummate behaviors, until doubt set in, and soon skepticism regarding perceived perfunctory action. The win-win promise of the honeymoon became the prisoners’ dilemma of divorce.

In the final chapter of the book, the authors distill the lessons learned from the case into three core tenets that can guide future contract management. First, both parties must understand the uncertainty and specialized investment required to deliver and receive complex products. Second, rules must be well crafted to promote and reinforce cooperation between the buyer and seller. Finally, relationships must be built and developed focused on the future. Doing so can minimize the opportunity for self-interested behavior and promote cooperative action.

They offer four practical suggestions to accomplish this. First, the system of systems concept is not itself the problem, so they must be cautious not to throw the baby out with the proverbial bathwater. Second, the LSI role is also not the problem, she serves a valuable role, but employing those first two strategies requires constant and iterative producer and user input, for which there is no solution other than seemingly constant communication. In addition, both parties, despite the LSI role, must maintain their own internal contract management capacity. Eliminating such roles is not the place for cost savings. Furthermore, third-party review and monitoring (despite the costs associated) can complement that internal contract management capacity before, during, and after procurement, and should be utilized.

Taken together, the strengths of this book are its conceptual clarity and ability to distill a complex

case into relatively easy-to-grasp, practical lessons that push back against simplistic notions of contracting out to save money or reduce political exposure. At the authors’ own admission, this book is not a “how to” book. With this caveat in mind, the book avoids specific actionable prescriptions for success. Given the depths of understanding that were clearly demonstrated, one might desire answers to some questions raised, but the authors stop short of providing specific steps for effective complex contracting. What exactly does one need to understand about complex product procurement? What rules would serve parties best, and when? How does one build a relationship that transcends mistrust? In addition, while the degree of detail and the depth of players’ voices throughout this work speak to the thoroughness of the research, the book lacks a sophisticated discussion of methods. These two additions would have made this required reading for doctoral students across many disciplines. Regardless, it represents a remarkable effort that reads well, applies theoretically sophisticated analysis, and tackles a complex and highly relevant case study in public management in a readily digestible fashion.

At the onset of this review, I suggested that the authors accomplished their goals of bridging the linguistic divide in contracting, illustrating the value of academic guidance in contract strategy, and improving governmental purchasing processes for complex products and services, and more. This book also accomplishes the important, though unstated, goal of reaffirming the value of single case study research. They leave little doubt that they included the voice of many key players. The work appears iterative, evolving as the authors learned more about the case. It is properly theoretical, punctuated with vivid, authentic accounts and interpretations by those most closely involved. Finally, this research demonstrates the importance and value of bridging the divide between scholars and practitioners to produce research with real implications and important insights.

Ultimately, this book provides a case study in organizational learning—and the inability of our government and its contractors to do so at times. The authors underscore the desire to do so, and the obstacles that limit success. They map a path forward, not by prescription, but through a broader understanding of stakeholder management and shared strategic direction accomplished through contracts that display a sufficient understanding of the nature of complex products so that rules promote cooperative behavior and build strong healthy interorganizational relationships—no small task.