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### **Predicting Bid Protests: What Should Acquisition Teams (Not) Do?**

31 July 2019

**Dr. Timothy G. Hawkins, Associate Professor**

Gordon Ford College of Business

**Western Kentucky University**



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# Abstract

Bid protests are increasing, and the effectiveness for protestors is relatively high. Bid protests delay receipt of needed goods and services. They are costly to prevent and to adjudicate. The purpose of this research is to better understand why bid protests are lodged by interested parties. This research concentrates on meso-level factors controlled by the acquisition team that affect the receipt of a bid protest, namely, the characteristics of the procurement, acquisition strategy decisions, and human factors. Using an existing data set of 240 government source selections resulting from a survey of U.S. Navy contracting officials, a logistic regression model finds support for six antecedents. This research implicates the importance of criticality of the procured item or service, the type of value procured (i.e., services versus goods), the use of oral presentations, protest fear, protest experience, and cost reimbursement contracts in receiving a bid protest. Based on the findings, several managerial and theoretical implications are offered, in addition to promising paths for future research.

**Keywords:** Bid Protest, Source Selection, Justice, Government Contracting, Federal Acquisition



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# Introduction

A central tenet of a public contracting system is to maintain the public's trust via instilled integrity, fairness, and openness (Hawkins et al., 2016). A bid protest is a corrective mechanism to ensure integrity and fairness by providing an interested party with a process to air complaints and obtain relief (Manuel & Schwartz, 2011). It is a written objection that can occur at any stage of the contract award process. Often, protests result from alleged errors or mistakes committed by the buying agency. The most common errors cited in protests are: poorly written or vague contract requirements; failure to follow the process or evaluation criteria laid out in the request for proposals; unequally treating offerors, and failure to adequately document the record (GAO, 2014). Said errors can result in unfair discrimination against an offeror, and thus, lost business. Nevertheless, offerors also protest for opportunistic reasons such as to increase revenue, harm competitors, obtain competitive intelligence, prospect for protest viability, and negotiate a subcontract award (Maser and Thompson, 2010).

Bid protests have become a substantial aspect of government procurement (Cibinic et al., 2011). In 2016, 2,621 protests were received by the GAO (GAO, 2016), double the number received in 2008 (Arena et al., 2018). This number trended steeply upward from 2007-2011, then levelled. "From FY2008-FY2014 total government spending, adjusted for inflation, decreased 25% while total protests increased 45%" (Schwartz and Manuel, 2015, p.8). Thus, protests as a percentage of protest opportunities (i.e., awarded contract actions) increased from .16% in 2008 to .26% in 2016 (Arena et al., 2018). Of those protest cases that made it to a decision from 2009-2014 (i.e., the few that were not dismissed, settled, or withdrawn), only 17% were sustained, but an average of 42% of all protest cases were effective (either sustained or resulted in corrective action taken by the buying agency prior to a decision). The effectiveness rate for 2017 grew to 47% (GAO, 2017).



Acquisition officials and end users loathe the receipt of a bid protest (Hawkins et al, 2016). The potential to receive a bid protest drives agencies to incur transaction costs to: (1) prevent a protest by thoroughly documenting and substantiating proposal evaluations and trade-off decisions (Hawkins et al., 2016), (2) defend against an actual protest lodged (NASPO, 2013), and (3) take corrective actions. Responding to a protest requires the agency to generate a statement of facts and a memorandum of law, and to gather all of the pertinent supporting documents such as the solicitation, evaluations, proposals, etc., for distribution to the GAO and, in some cases, the protestor's legal counsel (Rumbaugh, 2010). The GAO resolves 70 percent of cases within 60 days, but consumes 90 to 100 days to resolve the remaining 30 percent which are complex cases (Arena et al., 2018). At best, an agency's voluntary corrective action means the competition is reopened, and proposals are allowed to be revised necessitating further evaluations and delaying the contract award. At worst, an authority such as the Government Accountability Office (GAO) or Court of Federal Claims (COFC) sustains the protest, meaning that the procurement process must often start anew. This adds even more time and delays the receipt of needed goods and services resulting in significant rework. The end users bear costs as well since their requirements are delayed or go unfulfilled. Bid protests are such a persistent concern that the U.S. Federal Government recently proposed legislation to impose a \$350 filing fee do dissuade frivolous protests (Poling, 2016), and the GAO, for the first time ever, temporarily banned a frequent protestor, Latvian Connection, from federal contract awards (Mlinarchik, 2016). Congress took a step further in its Conference Report for the fiscal year 2018 National Defense Authorization Act (NDAA) that included a pilot program to test the effects of an unsuccessful protestor paying the government's protest processing costs. Additionally, federal government agencies (Camm et al., 2012) and Congress (Arena et al., 2018) continue to commission studies to understand and mitigate problems. Furthermore, state governments are not immune to the public's concern for fair tendering; thus, they commissioned research of their own (Molenaar and Tran, 2015).





While some research downplays the impact of protests by emphasizing their relatively rare occurrence (Arena et al., 2018; Gordon, 2013), the buyer's reaction to the bid protest system is to apply extraordinary effort to defend acquisitions against a protest. Measures taken to avoid protests include: (1) added layers of reviewers and legal counsel to scrutinize every document (and revision thereto) of the source selection record, (2) added procurement lead time, (3) conducting additional rounds of discussions to allow offerors an opportunity to rectify weaknesses and deficiencies rather than eliminating them from the competitive range, (4) unnecessarily retaining offerors in the competitive range, (5) awarding more contracts than intended, (6) modifying existing contracts rather than conducting full-and-open source selections, (7) shopping requirements to existing contracts for task order awards rather than conducting a full-and-open source selection, (8) utilizing a more objective, price-based source selection method such as LPTA rather than a full trade-off, (9) increasing the size of the acquisition team, and (10) offering more extensive debriefings. Furthermore, practitioners continue to devise procedures to mitigate protests (Curry, 2018; Finkenstadt and Hawkins, 2016). Together, efforts during source selections amount to an average \$235,000 of transaction costs each, or 7.7% of the contract value (Hawkins et al., 2016). These burdens and costs are not trivial, which suggests that the bid protest system will continue to be controversial.

Periodically, the GAO publishes a list of common infractions leading to sustained protests. Such micro-level factors include: failure to follow the solicitation evaluation criteria; inadequate documentation of the record; unequal treatment of offerors; and unreasonable price or cost evaluation (GAO, 2014). Certain meso-level systemic characteristics could facilitate these micro-level mistakes. Surprisingly, however, few studies have examined the meso-level factors pertaining to the structure of an acquisition, the context of the procurement, and human factors. One study by Maser and Thompson (2010) found that protests are more likely in cases of: (1) more bidders, (2) smaller bidders, (3) a high value of the protested contract as a percentage of the protestor's revenue, (4) contracts with long delivery times (i.e., extended lock-outs), (5) buying services, and (6) international winners.



But what other strategy decisions are being made by the acquisition team that contribute to an offeror's decision to protest? Other factors could include: the source selection method applied, whether oral presentations are conducted, whether sufficient procurement lead time is allotted, whether discussions were conducted, the size of the acquisition team, and the experience level of personnel involved. Further, do characteristics of the procurement affect an offeror's decision to protest?

In addition to the very practical utility of unveiling factors that may reduce or increase bid protests, perhaps greater value from investigating this line of logic is the extension of inter-organizational justice theory to pre-award supplier selection (i.e., not just pertaining to managing established post-award supplier relations). After all, a bid protest is purportedly a manifestation of a supplier's perceived injustice. Heretofore, justice theory applied to inter-organizational contexts is scant (Liu et al., 2012) and has ignored a challenging stage of supplier relationships – relationship initiation (Dwyer et al., 1987). However, the intersection of justice expectations and a competitive supplier selection presents a “sticky” situation in need of clarity.

This research, backed by quantitative data, seeks to bridge this gap. In doing so, all business-to-business/business-to-government (B2B/B2G) relationships stand to benefit by a better understanding of the specific phenomena leading to more efficient and effective supplier relationship formation (i.e., less perceived injustice and conflict).

### *Research Questions and Objectives*

The purpose of this research is to better understand why bid protests are lodged by interested parties. An objective is to identify various meso-level decisions and actions of buy-side acquisition teams that affect the receipt of a bid protest. Another objective is to seek extensions to inter-organizational justice theory based on the findings. The following research questions (RQ) will be explored.

- RQ1: What characteristics of a procurement affect whether a bid protest is received?
- RQ2: What acquisition strategy variables/decisions affect whether a bid protest is received?



- RQ3: What human factors contribute to receipt of a bid protest?
- RQ4: Are the pertinent theories surrounding inter-organizational exchange complete, and if not, what extensions should be considered?

### *Research Scope*

This research examines only sources of bid protests attributable to buying organizations. The scope excludes examining non-buyer sources of bid protests such as those lodged for reasons other than buyer action or inaction. Allegedly, it is common for businesses to protest a contract award due to business strategy reasons such as to buy more time (i.e., revenue) on a service contract as an incumbent, to gain another chance to secure an otherwise lost business opportunity, or to disadvantage a competitor in some way.

The remainder of this research is organized as follows. First, the relevant literature is surveyed raising a conceptual framework and proposed hypotheses. Next, the the research design and methodology are explained. Then, the study provides an analysis of the proposed models and reports the findings. Lastly, the study offers a summary discussion, offers implications for theory and practice, and concludes with study limitations and logical and useful vectors for future research.



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# Literature Review

## **Bid Protest Evolution and Diffusion**

The United States government's bid protest system evolved as a means to ensure fairness to taxpayers, whose resources should not be wasted, and to suppliers that relied upon the government for business. Its origin traces to the Tucker Act of 1887; thereby, the government waived its sovereign immunity allowing it to be sued in certain contractual matters (Arena et al., 2018). The U.S. Government Accounting Office was created in 1921 (Arena et al., 2018), and began hearing bid protests shortly thereafter with the first recorded decision in 1925 (Gordon, 2013). Eventually, the courts also gained jurisdiction to hear protests, currently the Court of Federal Claims. An underlying theory of the bid protest system is equity; private firms should have an equivalent chance to secure government contracts (Arena et al., 2018). For protests filed at the GAO, relief is restricted to *interested parties* – those firms deemed to have direct economic interest (Cibinic et al., 2011) by being in a position for contract award given a sustained protest decision (Edwards, 2006).

Bid protest systems for the deterrence and relief of injustice are not unique to the United States federal government. Their effectiveness in fostering integrity and fairness is so recognized that protests became part of international trade through forums such as the North American Free Trade Agreement, World Trade Organization, the United Nations Commission on International Trade Law, and the European Union (Gordon, 2013). Notwithstanding, most U.S. state governments allow for administrative bid protests without having to resort directly to a lawsuit (NASPO, 2013).

## **Justice Theory**

Because of its importance, justice is receiving increased academic attention (Kaynak et al., 2015). Perceived (in)justice affects key outcomes such as trust, satisfaction, commitment, and unethical behaviors (Greenberg, 1990), and has been



positively associated with alliance profitability (Beugre and Acar, 2008). Of the three dimensions of justice, distributive justice dominated early work. Distributive justice represents an individual's assessment of the distribution of outcomes (Gilliland, 1993). Interested parties often seek to ensure that outcomes are distributed among the parties fairly. Commonly, the basis of those assessments is equity – a comparison of an individual's own *get* versus *give* ratio versus that of a referent. When this investment-to-outcome ratio is approximately equal among parties, justice is perceived, and vice versa. An inequity results in decreased satisfaction and often a search for alternatives.

Similar to findings in organizational theory (Gilliland, 1993; Leventhal, 1980; Thibaut and Walker, 1975), channel members expect to be treated fairly, a dimension referred to as procedural justice. “Procedural fairness is the glue that holds the relationship together” (Kumar, 1996, p.104). It has been found to be more important than distributive justice (Gilliland, 1993). Procedural justice increases knowledge sharing, continuous commitment, and relationship investment, which, in turn, increase buyer-supplier relationship performance (Liu et al., 2012).

Procedures are seen as just when they include the following six principles: (1) bilateral communication, (2) impartiality (equal opportunity), (3) refutability, (4) explanation, (5) familiarity, and (6) respect (Kumar, 1996). Other important aspects of procedural justice include: consistent decisions based on accurate information, consideration of the ethical values of affected individuals, and outcomes that could be modified (Leventhal, 1980). A nuance of procedural justice concerns the treatment of affected individuals while enacting a decision – a phenomenon termed interactional justice (Bies and Moag, 1986). Not only is the content of a decision important, but so is the way in which it is communicated. Affected people's justice perceptions are affected by whether they receive an explanation for a decision (i.e., justification), and whether they are respected and not treated rudely (i.e., treated well).

Inter-organizational justice has been defined as “boundary spanners’ perceptions of the fairness of each other’s actions in interorganizational



relationships” (Beugre and Acar, 2008, p. 452). Inter-organizational justice during sourcing processes is important due to its effect on relationship continuity (Kaynak et al., 2015). In procurement, justice or fairness has been examined in relation to many essential processes such as supplier selection (Plank et al., 1994), inspection and acceptance (Plank et al., 1994), dispute resolution (Lu et al., 2017), post-award negotiations of changes (Lu et al., 2017), forecast information sharing (Blancero and Ellram, 1997), and supplier performance evaluation (Blancero and Ellram, 1997; Hawkins and Gravier, 2016), to name a few.

A common thread across inter-organizational justice theory and social exchange theory is communication. Most of the aforementioned principles pertain in some way to communication. The theory of channel communication might be instructive (Blancero and Ellram, 1997; Mohr and Sohi, 1995), but pertains to ex post versus ex ante relationship formation. Very little research addresses the essential elements of communication during relationship formation, and particularly the interplay of these communication elements with perceptions of justice. Therefore, the focus here entails supplier selection prior to relationship formation.

Many of the meso-level factors predicting bid protests should focus on the seminal effects of buyer-supplier communication. As such, this research addresses how the structural design of the acquisition process either hinders or facilitates the communication of expectations, explanations of decisions, respect, disagreement, and opportunity. Pertinent factors can be organized as characteristics of the procurement, acquisition strategy components, and human factors.

### *Characteristics of the procurement*

It has been suggested that when revenue is at stake, incumbents who are unsuccessful offerors on the follow-on contract source selection are likely to protest (Arena et al., 2018). We also know that protests increase as the contract value as a proportion of the offeror’s total revenue increases (Maser and Thompson, 2010). Similarly, requirement criticality represents the level of contribution an acquired good or service makes to the requiring activity’s mission (Kraljic, 1983). When goods and services are critically important, the requiring activity is likely to have a persistent



need. This means that not only is the revenue and profit of the current requirement at stake, but so is that of future, repeat procurements. Offerors may protest so as to not lose out on the promise of persistent income. Thus, it is expected that:

**H1: There will be a positive relationship between dollar value of the proposed contract and receipt of a bid protest.**

**H2: There will be a positive relationship between criticality of the requirement and receipt of a bid protest.**

Maser and Thompson (2010) found that protests are more likely in cases of procured services versus goods. The more difficult the definition of requirements (i.e., the communication of all expectations and performance levels), the more likely the buyer's evaluation team will misunderstand the proposed value offering. Hence, an overly strict evaluation criterion rating, a weakness, or a deficiency could be undeservingly assigned to the offeror's proposal. Similarly, the more intangible the service or its outcome, the more likely the buyer will omit a specification or inadequately define it for offerors. Thus, offerors may not adequately address a true underlying, yet undescribed, need. The mis-evaluation of poorly or under-specified needs may raise perceptions of procedural injustice. Therefore, it is posited that:

**H3: The type of value procured will be associated with receipt of a bid protest.**

Protest risk has been found to be a significant predictor of fear of protest (Hawkins et al., 2016). Protest risk represents the product of the probability of receiving a bid protest and the magnitude of the consequences of receiving a protest. As previously discussed, negative consequences could include delayed receipt of needed goods and services, added effort of a source selection team increasing transaction costs, litigation costs such as bid and proposal costs, contract termination for convenience costs, potential shame and embarrassment to the acquisition team, and even adverse personnel action to those committing errors.

Not all acquisitions are equally susceptible to protest. For instance, a ten-year, multi-billion dollar, unique service contract (e.g., cloud computing or cybersecurity) will have higher odds of being protested than a similar single-year





contract due to its dollar amount, duration, and its associated compounding reputational effects. Neither are the consequences of a protest the same for each acquisition. For example, redoing an evaluation of three proposals entails less transaction costs than that of 14. Similarly redoing evaluations involving four evaluation criteria entails less transaction costs than that involving 20. Further, delaying the award of a five billion dollar acquisition would likely cost the buyer more than that of a 200 thousand dollar acquisition. In terms of justice theory, where the distribution of negative consequences is unbalanced between buyer and seller or between competing offerors, protest risk should increase. Where the product of protest probability and magnitude of consequences is large, a protest is more likely. Thus, it is posited that:

**H4: There will be a positive relationship between protest risk and receipt of a bid protest.**

*Acquisition strategy variables/decisions*

Government source selections take time. But, agencies, in their acquisition processes, should not consume too much time thereby dissuading the best firms from participating in the government market (Edwards, 2006). Sometimes, the allotted procurement lead time is limited in order to receive the goods and services when needed, and sometimes proper advance planning does not occur necessitating expedited sourcing. It is logical that when the myriad of tasks associated with source selection are rushed, mistakes may occur. Likewise, the insufficiency of planned procurement lead time has been found to increase the fear of protest (Hawkins et al., 2016). Ill-suited procurement lead time may signal to offerors that their proposals have not been thoroughly or fairly evaluated or that reasonable and legitimate tradeoff decisions have been made and documented; thus, perceptions of procedural justice may suffer. It is thus posited that:

**H5: There will be a negative relationship between sufficiency of planned procurement lead time and receipt of a bid protest.**

Various methods are available to source selection teams to evaluate offers and choose between them. The three best value methods mentioned in FAR Part



15 include a full trade-off (FT), a price-past performance trade-off (PPT) and the low-price, technically-acceptable (LPTA) method. The FT method allows for trade-offs between price and non-price factors. Hence, using a FT method, a buyer is permitted to pay more for higher performance. In contrast, under a LPTA method, non-price factors are evaluated as acceptable or unacceptable. Once proposals are deemed acceptable on each non-price evaluation criterion, the award decision defaults to the low-price offer. Therefore, a binary rating of acceptable or unacceptable under an LPTA method is, in general, easier to defend than is a ordered-categorical-scale rating (e.g., outstanding, good, acceptable, marginal, unacceptable). Further, making and justifying tradeoffs between such categorical ratings and price poses challenges in order to withstand scrutiny. For example, how outstanding does an offer need to be to warrant paying a five percent higher price?

Qualitative evidence suggests that contracting officers believe that their choice of source selection method can affect the receipt of a bid protest, and that this impacted their decision (Arena et al., 2018; Gordon, 2013). The LPTA method, due to its lower subjectivity, is more easily defensible and is less prone to errors than is the FT method. Under a FT method, multiple criteria and multiple evaluators could invite dissonance in evaluations among team members of the meaning of criteria, and could invite the subliminal use of unstated evaluation criteria that, arguably, needed to have been in the solicitation. Evaluations conducted contrary to the process prescribed in the solicitation can raise perceptions of procedural injustice by offerors. In several cases, an LPTA source selection has been used or suggested explicitly as a means of avoiding a bid protest (Pocock, 2009; Schwartz and Manuel, 2015). As such, it is posited that:

**H6: There will be a negative relationship between source selection method appropriateness and receipt of a bid protest.**

**H7: The LPTA source selection method will be negatively associated with receipt of a bid protest.**

Bid protests have been associated with socio-economic status (Maser and Thompson, 2010). Small businesses account for most protests at the GAO (53%)



and at the COFC (58%) (Arena et al., 2018). Maser and Thompson (2010) posited that small businesses are more likely to protest than are large businesses, and further, that small businesses commonly protest other small businesses' contract awards. Given that protests are related to the procurement's proportion of the offeror's revenue (Maser and Thompson, 2010), this proportion will be higher for small businesses. Thus, it is posited that:

**H8: There will be a positive relationship between a small business set-aside and receipt of a bid protest.**

The acquisition strategy encompasses the source selection method but is more broad. It also entails such components as: the contract type, milestones, team members, team size, evaluation criteria, contract duration, incentives, options, number of contracts, contract line item structure, price and cost analysis method, contract clauses and solicitation provisions, and payments method - to name a few. The extent to which these components of strategy do not fit the procurement could invite errors in the evaluation of proposals. As such, it is posited that:

**H9: There will be a negative relationship between acquisition strategy appropriateness and receipt of a bid protest.**

In source selection, often all technical evaluators are not involved in the determination of evaluation criteria or in the definition of their meaning. Furthermore, often, technical evaluators are not versed in the nuances of the rules of proposal evaluation and bid protests (Molenaar and Tran, 2015). Criteria that should have been in the solicitation but were omitted, for whatever reason, can by mistake or otherwise, inappropriately creep into the evaluation. A failure to follow the stated evaluation criteria is cited as a leading cause of sustained protests (GAO, 2014). Evaluation comments and proposal critiques that are useful in discriminating between offers can, therefore, be discouraged by review committees and legal counsel (Arena et al., 2018). The extent to which technical evaluator's evaluations are sanitized by reviewers should mitigate procedural injustices, and therefore, protests. Thus,



**H10: There will be a negative relationship between compromised technical evaluations and receipt of a bid protest.**

Often, source selection teams are rushed by aggressive milestones for contract award. One way to reduce procurement lead time is to bypass discussions (i.e., negotiations or, more often, the resolution of weaknesses and deficiencies in proposals). Conducting a source selection without discussions occurs more often than not (Payne and Hackenbracht, 2009). In order to award a contract without discussions, the contracting officer must notify offerors in the solicitation of the intent to award without discussions, making it a deliberate acquisition strategy decision. Rushing the process and foregoing an opportunity to fully understand each aspect of each proposal might invite errors to the evaluations. Additionally, one aspect of procedural justice is to afford individuals an opportunity to impact the decision process (e.g., proposal evaluations) or offer input (Thibaut and Walker, 1975). Foregoing discussions denies such input. Thus, it is posited that:

**H11: There will be a positive relationship between intent to award without discussions and receipt of a bid protest.**

On the other hand, discussions entail strict procedural rules ripe for errors. For example, discussing one aspect of a proposal with one offeror and failing to check the same with each other offeror (e.g., past performance reference relevance in terms of type of work, location, or weather) could be a protestable offense (Wallace, 2018). The unequal treatment of offerors was cited as a leading cause of sustained protests (GAO, 2014). If discussions are opened, the procurement becomes substantially more error-prone due to the strict procedures and documentation required. Inadequate documentation is cited as a leading cause of sustained bid protests (GAO, 2014; Wallace, 2018). For this reason, discussions are sometimes avoided by Contracting Officers (Gordon, 2013). As such,

**H12: There will be a positive relationship between conducting discussions and receipt of a bid protest.**

Oral presentations constitute the submission of proposal information orally (Edwards, 2006). Oral presentations were codified in the FAR in concert with the



rewrite of Part 15 in 1997 as a tool to streamline the source selection process and to improve pre-award communications between offerors and the government (Hannaway, 2000). Oral presentations facilitate communication from the offeror of its understanding of the work, its capabilities (Edwards, 2006), its past performance, and its technical approach (Rumbaugh, 2010). This explanation should enhance evaluators' understanding of the proposals resulting in more accurate evaluations and ratings (e.g., proposal risk). Indeed, explanation and bilateral communication are among the six principles of the theory of justice (Kumar, 1996).

On the other hand, oral presentations add one more step to a complicated evaluation process (i.e., more opportunity to make a mistake). Specifically, entertaining oral presentations without opening discussions means that source selection team members, in their communications, must be careful not to allow an offeror to revise its proposal – even orally (Cibinic et al., 2011; Edwards, 2006). Of course, this requires a perfect knowledge of each element of an offeror's written proposal in order to recognize whether any statement made during an oral presentation constitutes a change to any prior written or oral proposal submission. Obviously, prospective contracts with expansive or complicated scopes of work can render such perfect knowledge untenable. Proposal revisions may inadvertently be made. Consider also that salespeople naturally want to satisfy evaluators (i.e., avoid negative ratings or perceptions of weaknesses); thus, changes to proposals can be difficult to avoid as salespeople can sense evaluators' concerns by either non-verbal cues or by the ensuing line of questioning. Given the aforementioned conflicting arguments to the benefit or harm of an oral presentation, no directional claim is made.

**H13: There will be a relationship between the use of oral presentations and receipt of a bid protest.**

The GAO repeatedly cites inadequate documentation of the record as a chief culprit of sustained bid protests (GAO, 2014). Poor documentation could include contradictions in the records and omissions of details needed to justify ratings and tradeoff decisions. Documents relied upon during proposal evaluations include the:



source selection decision document, comparative analysis of proposals, evaluation notices to offerors, source selection plan, debriefing scripts, technical evaluations, past performance evaluations, cost or price analyses, rating charts, and evaluation briefing charts. Additionally, protest probability has been qualitatively associated with source selection document scrutiny (Arena et al., 2018). The purpose of the scrutiny is to avoid a protest. Thus, logic holds that more revisions reduce errors and thereby lower the chances of receiving a bid protest. Added scrutiny entails often multiple acquisition team members pouring over all of the documents to prevent errors such as those cited by the GAO – unequal treatment of offerors and following the evaluation process and criteria per the RFP. As such, it is posited that:

**H14: There will be a negative relationship between the number of source selection document revisions and receipt of a bid protest.**

In order to appease otherwise unsuccessful offerors and thwart a protest, contracting officers will sometimes award more contracts than planned (Payne and Hackenbracht, 2009). In essence, the work gets split among two or more contractors so that there are no losers. For example, building, fielding, and sustaining two varieties of Littoral Combat Ship platforms substantially increased costs relative to doing so for a single platform (O'Rourke, 2014), but mitigated the threat of a protest. Thus,

**H15: There will be a negative relationship between increased actual number of contracts awarded versus that intended and receipt of a bid protest.**

Qualitative evidence suggests that contracting officers adjust the chosen type of contract to the probability of a protest (Arena et al., 2018). More complicated contract types (e.g., cost reimbursement) entail more complicated cost analyses that are prone to controversy and error (e.g., should-cost analysis). Prior research found that cost plus-type contracts are more likely to be protested (Maser and Thompson, 2010). Thus, it is posited that:

**H16: Contract type will be associated with receipt of a bid protest.**



Acquisition officials exercise judgment in assigning an appropriate amount of resources to conduct a source selection. They must consider evaluators' availabilities, expertise, and location. Potential resources are balanced with the task demands such as the award milestones, required travel, quantity of expected proposals, and quantity of evaluation factors and sub-factors (Edwards, 2006). For source selections with higher protest risk, acquisition officials may assign more evaluators and other team members and for a larger portion of their time. Logically, more people and more effort should mitigate protest-worthy mistakes. More resources can be indicated by transaction costs, determined by the number of full-time equivalent personnel working on the source selection. Therefore,

**H17: There will be a negative relationship between transaction costs and receipt of a bid protest.**

#### *Human factors*

Fear of protest describes the level of apprehension a contracting professional has about receiving a bid protest (Hawkins et al., 2016). It follows that in cases in which contracting officers are worried about a protest, the acquisition team will take added measures to prevent a protest. Thus, it is posited that:

**H18: There will be a negative relationship between fear of protest and receipt of a bid protest.**

The RAND Corporation's study of bid protests revealed that industry representatives question the competency of the acquisition workforce, citing a need for additional training (Arena et al., 2018). Additionally, source selection experience has been found to reduce fear of protest (Hawkins et al., 2016). Experience appears to yield confidence in the compliance of the procurement process. Training and education may also provide the necessary awareness of the myriad of laws, regulations, and case law – any of the peculiarities of which could jeopardize a procurement. Therefore, it is reasonable to expect that:

**H19: There will be a negative relationship between experience and receipt of a bid protest.**



Combined, this set of hypotheses should help predict bid protests. The conceptual mode (Figure 1) is sufficiently comprehensive to enable practitioners to determine needed definitive action to improve the effectiveness of their source selections.

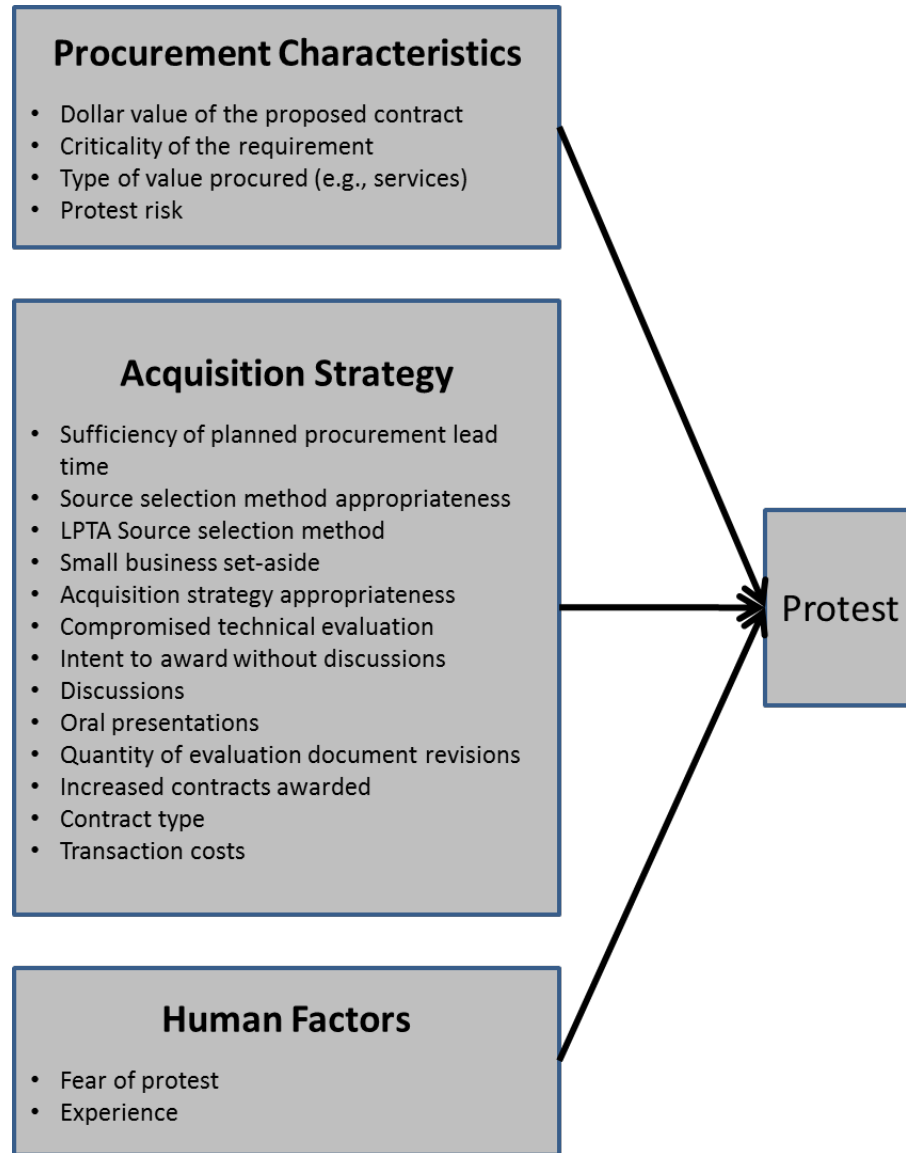


Figure 1. Conceptual Model



# Methodology

The purpose of this research was to identify factors associated with the receipt of bid protests. This study examined a unique, rich data set of 350 government source selections resulting from a survey of U.S. Navy contracting officials. The data went beyond that of typical protest research that relies on summary-level contract award data from FPDS-NG and GAO's Electronic Protest Docketing System. Rather, the data set includes unique insights from those involved in the source selection, including perceptions (e.g., source selection method appropriateness) and objective data elements not captured elsewhere (e.g., intent to award without discussions). Given the exploratory nature of the research, a backward stepwise logistic regression model was applied to the data. The remainder of this section details the unit of analysis, data, measurement of constructs, the data demographics, reliability, and validity.

## Unit of Analysis

The unit of analysis for this research was a U.S. federal government source selection. Since many bid protests stem from a protestable action associated with a source selection (e.g., a proposal rating, rating justification, or basis of a tradeoff analysis), this is the proper unit of analysis for the study. The data pertained to source selections conducted pursuant to FAR Part 15; those conducted using simplified acquisition procedures and task order competitions were excluded.

## Data

The data set included 350 records of source selections. Many records were omitted from this analysis due to missing data and conflicting data. Five records reported zero PALT, which is not possible. Another 32 records reported PALT less than 45 days. While the original survey instructed respondents to complete the survey pertaining to a FAR Part 15 source selection under \$150 thousand, some respondents may have reported on task order competitions. Due to advertising requirements (15 days), proposal preparation time (30 days), and time for



evaluations, FAR Part 15 source selections should consume at least 45 days from receipt of a complete requirements package. Also, 15 records either included no dollar value or a value that was less than the simplified acquisition threshold (\$150,000 – meaning FAR Part 13 procedures or task order procedures were more likely). Finally, 66 records did not include sufficient transaction cost data to determine full-time equivalents. Together, for the sake of complete data and consistency of source selection rules, these 110 records were removed leaving a data set of 240 records for analysis.

## Measurement

The model included objective variables and latent constructs. *Compromised technical evaluations* was measured using a three-item scale. It assessed the extent that technical evaluators perceived that constraints imposed on their evaluations impeded an ability to write a meaningful evaluation (e.g., via a need to change an evaluation criteria or its definition). *Protest fear* was measured using a four-item scale. It assessed the degree of apprehension a contracting professional had about receiving a bid protest. *Sufficient PALT* was measured using a three-item scale. It measured the respondent's perception of (in)adequate time allocated to the source selection. *Criticality* was measured with a three-item scale. It assessed the level of importance of the product or service being purchased to the success of the buying organization's mission. *Acquisition strategy appropriateness* was measured using a six-item scale. It assessed the perceived degree to which the respondent believed the acquisition strategy fit the buying situation and would facilitate the buying organization selecting the optimal supplier and meeting its objectives. As defined, acquisition strategy encompasses complexity, dollar value, acquisition objectives, contract length, performance risk, criticality to the mission, availability of supply, and source selection milestones. *Source selection method appropriateness* was measured with a single-item scale, and assessed the degree to which the respondent believed the applied source selection method (i.e., LPTA, PPT, or full trade-off) was the best fit to the buying situation considering aspects such as complexity, dollar value, acquisition objectives, contract length, performance risk,



criticality to the mission, availability of supply, and time available to award a contract. The scales for latent constructs can be found in Appendix A.

The following variables were categorical (binary), coded as a 1 if the condition existed and 0 otherwise: *intent to award without discussions*, *LPTA*, *discussions*, *oral presentations*, *increased contracts*, *small business set-aside*, *sustained protest experience*, *construction*, *service*, and *cost reimbursement contract*. *Dollar value* represented the awarded contract amount inclusive of all options. *Document revisions* was a count of how many revisions source selection documents underwent such as the source selection decision document, comparative analysis, evaluation notices, source selection plan, cost or price analysis, briefing charts, and debriefing scripts. *Protest experience* represented a sum of protests experienced by the respondent over his or her career. *Contracting experience* measured the number of years the respondent served in a contracting role. *Source selection experience* was measured by the quantity of source selections the respondent had experienced throughout his or her career. *Protest risk* was calculated as the sum of the products of the probability of occurrence of five protest-related outcomes and each of their magnitudes of effect. *Transaction costs* was measured by counting the number of personnel participating in the source selection considering how much of each member's time was allocated to the source selection.

Tests for skewness and kurtosis revealed that four variable z-scores for skewness were greater than an absolute value of three, suggesting that the data for four variables – dollar value, document revisions, protest experience, and source selection experience - were skewed (Kline, 1997). Similarly four variables showed an absolute value of kurtosis z-scores greater than ten (Kline, 1997). These statistics suggest that the variables are not normally distributed. While logistic regression does not rely on an assumption of normally distributed indicators, two of the variables – dollar value and document revisions - were Log10 transformed in order to mitigate distortion due to extreme values. Their skewness and kurtosis statistics were 9.9 and 105.3 and 8.9 and 87.8, respectively. Transformation should improve model fit. Additionally, it is customary to transform contract dollar values in business research.



## Data Demographics

The average dollar value of the resultant contracts was \$128.3 million (std. dev. \$668.7M; median: \$16.3M; range: \$163.3K-\$8B). Demographics characterizing the respondents and the source selections for which they responded are found in the ensuing tables. The sample was respectably experienced, an average 14.2 years in contracting. Respondents experienced an average 2.2 protests in their careers (std dev 3.5, range 0-25); 38 experienced a sustained protest. Respondents' average number of source selections experienced was 40. They were also educated, with 58% holding a Master's degree or higher. Most respondents were female (55%).

The sample is heavily influenced by services versus construction and products. Knowledge-based services dominate the service category (49%) and represented 28% of all records. Small business set asides comprised 43% of the records. The data represented a variety of products and services, 126 different PSC/FSC codes. All major contract types are represented; however, most are firm-fixed price. Of the 240 source selections, 43 were protested. Tables 1-5 further describe the sample and provide insight to the extent of generalizability of the results.

*Table 1. Contracting Experience*

Years	Frequency
0 - 9	110
10 - 19	52
20 - 29	53
30 - 39	24
40 +	1



Table 2. Education

Highest Degree	Frequency
High School	4
Associate's	7
Bachelor's	90
Master's	137
Doctoral	2

Table 3. Purchase Type

Type	Frequency	% Protested
Services	138	24
Construction	40	13
Supplies/Commodities/Spares	39	8
Weapon System	17	6
Capital Equipment	6	17

Table 4. Contract Type

Type	Frequency	% Protested
Firm-Fixed Price	134	13
Cost Reimbursement	74	27
Time & Materials	3	0
Labor-Hour	2	0
Hybrid	23	22
Other	4	25

Table 5. Source Selection Method

Type	Frequency	% Protested
LPTA	72	13
Price-Performance Trade-off	24	17
Full Trade-off	144	21



## Measure Evaluation

### *Reliability and Validity*

The reliability of the five latent constructs measured by multi-item scales was assessed using Cronbach's Alpha, a measure of internal consistency reliability. The reliability of each construct (Table 7) was compared to the generally-accepted standard of 0.7 for established scales and 0.6 for new scales (Nunnally, 1978). Each construct exceeded the 0.7 threshold.

Reliability is a necessary, but insufficient, condition for validity (Kerlinger and Lee, 2000). Another aspect of validity that must be satisfied is to ensure that what is actually measured corresponds with what was intended to be measured. This aspect of validity addresses the accuracy of the measures. Construct validity was assessed using principle components exploratory factor analysis (EFA) with a Varimax rotation. All five predictor constructs measured via multiple-item scales were run together in an exploratory factor analysis. Individual items were assessed for sufficient correlation with the factor (factor loading), greater than 0.6, while simultaneously ensuring cross-loadings were less than 0.3 (Table 6). Items were iteratively trimmed until these thresholds were met. Overall, the constructs were deemed to be of sufficient reliability and construct validity. Table 7 presents the means, standard deviations, scale reliabilities, and correlations for these constructs.



Table 6. Factor Loadings\*

	Compromised Tech. Eval.	Protest Fear	Sufficient PALT	Criticality	Acq. Strategy Appropriateness
CTE2	.878				
CTE3	.894				
CTE6	.589				
FEAR1		.880			
FEAR2		.907			
FEAR3		.844			
FEAR5		.808			
PALT1			.825		
PALT2			.790		
PALT3			.875		
CRIT2				.883	
CRIT3				.911	
CRIT4				.784	
ACQSTAPP1					.890
ACQSTAPP2					.867
ACQSTAPP3					.732
ACQSTAPP4					.719
ACQSTAPP5					.799
ACQSTAPP6					.857

\*Cross-loadings < .30 not shown



Table 7. Construct Means, Standard Deviations, Scale Reliabilities<sup>a</sup> and Correlations

Construct	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Sufficient PALT	3.43	.88	<b>.81</b>												
2. Dollar Value <sup>c</sup>	\$128,277,185.70	\$668,663,840.10	.08	-											
3. Compromised Tech. Eval.	3.43	.91	-.24**	.06	<b>.75</b>										
4. Document Revisions	42.24	108.75	-.02	.13	.11	-									
5. Protest Experience	2.23	3.50	-.02	-.03	.03	.07	-								
6. Contracting Experience	14.22	10.13	-.02	-.00	.03	.08	.45**	-							
7. Source Selection Experience	40.19	83.97	-.09	-.05	.01	.02	.38**	.30**	-						
8. Protest Fear	4.26	.97	-.13*	.15*	.23**	.13	.04	-.03	-.17**	<b>.89</b>					
9. Acq. Strategy Appropriateness	5.60	.60	.30**	.02	-.30**	-.02	-.07	-.08	-.04	-.11	<b>.90</b>				
10. Criticality	5.96	.39	-.04	.08	-.02	.08	.06	-.13*	-.05	.07	.14*	<b>.83</b>			
11. Protest Risk	4.85	2.30	-.26**	.11	.14*	.06	.02	-.15*	-.01	.19**	.00	.117	-		
12. Source Selection Method Appropriateness <sup>b</sup>	6.03	1.42	.24**	.06	-.29**	-.02	-.03	-.01	.00	.00	.59**	.08	-.03	-	
13. Transaction Costs (FTE) <sup>c</sup>	3.60	6.47	.04	.75**	.09	.17**	-.04	-.01	-.10	.06	-.03	.10	.01	.01	-

\*\*Significant at the 0.01 level (2-tailed). \*Significant at the 0.05 level (2-tailed). <sup>a</sup>Reliabilities are presented on the diagonal for multi-item scales,

<sup>b</sup>Single-item scale. <sup>c</sup>Non-transformed





## Results

The model was tested using backward stepwise logistic regression, a common statistical technique applied to bid protest research (Maser and Thompson, 2010). Logistic regression is the multivariate procedure of choice in which the dependent variable is categorical and involves only two groups (Hair et al., 2010), in this case a source selection that was either protested or not. Results are shown in Table 8.

Generally, the model demonstrated satisfactory fit to the data. First, the omnibus chi-square test, a measure that resembles the F test in regular regression (Hair et al. 2006), indicated an improvement in the -2 Log Likelihood (-2LL) value from the base model to the final model ( $\chi^2 = 52.617, p < .001$ ). Nevertheless, the model in the final step (step 16) did not differ from that of the prior step ( $\chi^2 = -2.614, p = .106$ ). The Hosmer and Lemeshow Test was not significant ( $\chi^2 = 6.57, p < .58$ ) indicating no difference between the observed and predicted classifications. Practical significance of the model was evidenced by two assessments of pseudo  $R^2$ . The Cox and Snell  $R^2$  was .197, and the Nagelkerke  $R^2$  was .323 indicating that between 20% and 32% of the variance in the likelihood of receiving a protest was explained by the significant predictor variables. However, another assessment of practical significance, the hit ratio (portion of cases classified correctly), was less promising. While the model classified non-protested source selections with 96% accuracy, it only predicted 30% of protests given the set of predictor variables. Together, these findings suggest that other variables not available in the data set should be sought in fully explaining protest likelihood.

Of the eight predictor variables retained in the final model, six showed beta coefficients significantly different from zero at the .05 level of significance. The other two predictors were marginally significant ( $p < .10$ ). As seen in Table 8, service, protest fear, transaction costs, dollar value, document revisions, and sustained protest experience were found to be significant, and oral presentation and criticality were *marginally* significant. Therefore, protests can be linked to these eight factors.



These findings support H1, H2, H3, H13, H17, and H18. Experience and document revisions were expected to yield negative relationships with the odds of a protest, but they related positively; thus, no support is found for H14 and H19. The final model can be stated as:

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} - \beta_3 X_{i3} + \beta_4 X_{i4} + \beta_5 X_{i5} + \beta_6 X_{i6} - \beta_7 X_{i7} + \beta_8 X_{i8} + \varepsilon_i$$

**Model Definitions:**

- Y = Bid protest
- X1 = Criticality
- X2 = Service
- X3 = Oral presentations
- X4 = Dollar value
- X5 = Protest fear
- X6 = Sustained protest experience
- X7 = Transaction cost
- X8 = Document revisions

Criticality of the requirement was also linked to the odds of receiving a protest. Each increment of criticality (measured on a 1-7 Likert type scale) increased the likelihood of a protest by nearly 18 percent. Buying services had a strong effect. When buying services, the odds of receiving a protest increased 2.9 times. The use of oral presentations decreases the odds of receiving a protest by 76 percent. Consistent with previous research, dollar value was positively related to receiving a bid protest. For each ten-fold increase in contract dollar value, the odds of receiving a protest increase 2.5 times. Protest fear was also positively related to the likelihood of receiving a protest. For every one-point increase in protest fear (measured on a 1-7 Likert type scale), the odds of a protest increased by nine percent. If the contracting officer had previously experienced a sustained protest, the odds of receiving a protest increased by 3.7 times. Transaction cost was negatively related to a bid protest. For each additional FTE assigned to the source selection, the odds of receiving a protest decrease 15 percent. Finally, document revisions increased the odds of receiving a protest. For each ten-fold increase in document revisions, the odds of receiving a protest increase 3.4 times.



No effect was found for the remaining variables: intent to award without discussions, sufficient PALT, construction, compromised technical evaluations, conducting discussions, increased quantity of contracts awarded, contract type, contracting experience, source selection experience, small business set-aside, acquisition strategy appropriateness, protest risk, and source selection method appropriateness.

This exploratory model does not appear to be limited by sample size. There are at least five occurrences (Vittinghoff and McCulloch, 2007) of the less frequent level of the dependent variable per predictor variable. Since there were 43 protests (i.e., the less frequent level of the DV), the model could yield stable estimates if containing eight or fewer predictor variables. Thus, with seven predictors in the model, the threat of overfitting the model was mitigated.

*Table 8. Logistic Regression Predictors of Bid Protests*

Independent Variables	B	S.E.	Wald	Sig.	Exp(B)
Criticality	.16	.08	3.72	.054	1.18
Service	1.07	.44	5.94	.015	2.92
Oral presentations	-1.44	.86	2.78	.095	.24
Dollar value*	.92	.30	9.32	.002	2.51
Protest fear	.09	.04	5.78	.016	1.09
Sustained protest experience	1.31	.51	6.62	.01	3.71
Transaction costs	-.16	.08	4.37	.037	.85
Document revisions*	1.23	.62	3.94	.047	3.41

\*Transformed

There were several other important insights into source selections available from the data. First, most source selection teams (79%) intend to award contracts without conducting discussions – or, at least, desire the flexibility to do so. This is perplexing in light of the value of fully understanding an offeror’s proposal and the risk of failing to do so. While only 21% of source selections included planned



discussions, they were conducted in 60% of source selections. Oddly, 38 percent of respondents (92) indicated that awarding a contract without conducting discussions would be inappropriate to some degree. Together, these responses suggests internal dissonance among contracting officers; they are employing source selection strategies with which they do not entirely agree. Respondents were asked to rate their level of satisfaction with the freedom to openly discuss those aspects of the proposals that needed to be discussed with the offeror in order to fully understand the offer and to properly evaluate the proposals. A noticeable proportion (18%) of contracting personnel were not satisfied with the discussions held.

Oral presentations of offers are rare events (8.3%). Protested FAR Part 15 source selections are over-represented in the data (18%). Nonetheless, when the data was collected, self-selection bias was mitigated by asking respondents to complete the survey with respect to the latest completed FAR Part 15 source selection (regardless of whether it was protested). The overall protest rate, excluding task/delivery orders has been estimated at 7% (Camm et al., 2012). Sometimes (7%), contracting officers – who are responsible for selecting the appropriate source selection method – believed that an inappropriate method was employed. One method of interest due to its alleged overuse in order to avoid protests is LPTA, which was inappropriately used 17% of the time it was employed. Additionally, another alleged protest avoidance mechanism, awarding more contracts than intended, is a rather rare event (5%). Nonetheless, respondents clearly reported actions are frequently taken to deliberately avoid protests (Table 11). Fifty three respondents reported avoiding a FAR Part 15 source selection by awarding a task/delivery order an average of over 43 times each throughout their careers. Forty four respondents reported avoiding a FAR Part 15 source selection by negotiating a sole source contract an average of 14 times each. Forty eight respondents reported avoiding a FAR Part 15 source selection by modifying an existing contract an average of over 15 times each. In sum, 3,669 requirements were sourced using these deliberately subversive tactics without affording eligible sources an opportunity to compete.



Source selections are not without significant transaction costs, averaging 243 thousand dollars. Currently, the contracting process is labor intensive. Alarming, there were three cases in the data in which the buying organization incurred transaction costs exceeding the dollar value of the contract.

*Table 9. Acquisition Strategy Characteristics*

Type	Count	%
Intended to award without discussions	190	79
Inappropriate to award without discussions	92	38
Held discussions	143	60
Dissatisfied with discussions	43	18
Oral presentations used	20	8.3
Oral presentations appropriate	57	24
Oral presentations appropriate and not used	50	88
Small business set-aside	102	43
Protests	43	18
Inappropriate source selection method used	17	7
LPTA used but inappropriate	12	17
Awarded more contracts than intended	12	5



Table 10. Transaction Costs

	Average	Std Dev	Min	Max
Team Members	10.3	4.3	3	21
Transaction Costs	\$243,390	\$300,415	\$700	\$3,551,944
Transaction Costs/Contract Dollar	\$.066	\$.203	\$.00005	\$1.77
Document Revisions:				
SSDD	3.43	6.74	0	99
Comparative Assessment/Proposal Analysis Report	3.20	6.67	0	99
Evaluation Notices	13.94	98.63	0	1200
Source Selection Plan	3.10	2.778	0	30
Debriefing Scripts	2.43	3.56	0	27
Technical Evaluations	5.55	9.07	0	99
Past Performance Evaluations	4.22	8.65	0	99
Cost/price Analysis	3.06	4.77	0	60
Rating Charts	1.45	2.08	0	21
Evaluation Briefing Charts	1.87	1.81	0	10
TOTAL	42.2			

Table 11. Deliberate Source Selection Avoidance Mechanism Usage

Type	Average Times per User	Total Times Used – All Respondents	Min	Max
Task/delivery order	43.5	2,308	0	300
Sole source	14.2	624	0	100
Modify existing contract	15.4	737	0	114



## Discussion

Government contract formation is complicated by laws and regulations designed to instill public trust in the fair utilization of public funds. Compliance with the myriad laws and regulations consumes time and human resources and requires experience. Indeed, a seminal book by Cibinic et al. (2011), dedicates 135 pages solely to the nuances of bid protest laws, regulations, decisions, actors, processes, documentation, and timelines.

The purpose of the research was to better understand why bid protests are lodged by interested parties. In doing so, various meso-level decisions and actions that affect the receipt of a bid protest by acquisition teams were explored. The intent was to diagnose alleged weaknesses and to explore potential improvements. The following research questions were addressed:

- RQ1: What characteristics of a procurement affect whether a bid protest is received?
- RQ2: What acquisition strategy decisions affect whether a bid protest is received?
- RQ3: What human factors contribute to receipt of a bid protest?
- RQ4: Are the pertinent theories surrounding inter-organizational exchange complete, and if not, what extensions should be considered?

### *Procurement Characteristics*

Addressing the first research question, several characteristics of the procurement are associated with receipt of a bid protest. First, consistent with prior research, the dollar value of the contract opportunity – an indication of its value, scope and magnitude of required effort – is associated with bid protests (Maser and Thompson, 2010). This is not surprising given the revenue implications to the unsuccessful offeror(s). Larger scope also implies greater complexity, longer proposals, more in-depth evaluations, and greater opportunity for mistakes during source selection.

The criticality of the requirement matters – the more important the procured product or service is to the mission of the requiring activity, the greater the likelihood of a protest. Importance in a government context extended beyond mere dollar value of



the contract. Rather, importance conveys an extent that the requiring activity is dependent on the product or service in order to be successful (i.e., its underlying need). Hence, suppliers sense the requiring activity's need and recognize that needed products and services are likely to persist beyond the current source selection. Prospective suppliers don't want to miss out on being the supplier for critical products and services for the sake of future revenue and profit. This finding adds additional insight beyond mere dollars as a proxy for value.

Another significant characteristic that lends itself to protests is the type of value procured. Services seem to invite more protests than do other types such as weapon systems, products, and other capital equipment. Services have been associated with protests in prior research, with explanations focusing on the inherent difficulty in defining all of the precise expectations of work elements and performance levels. Key underlying characteristics of services are likely culprits – their intangibility (i.e., hard to specify and inability to inventory to buffer against uncertain demand), heterogeneity (i.e., hard to control uniformity), and sometimes simultaneous production and consumption (i.e., inability to fix defects ex ante) (Hawkins et al., 2014). This means that evaluators could be evaluating unspecified but expected requirements – unstated requirements that only come to light in hindsight perhaps illuminated in one offeror's proposal or by an evaluator's unique experience or knowledge. It seems that omissions would be a simple fix, but to do so means opening discussions, amending the solicitation, inviting revised proposals, and ultimately delaying the award. Evaluators may be reluctant to admit a mistake in defining evaluation criteria with this magnitude of an impact.

### *Acquisition Strategy Decisions*

Perhaps the most novel and interesting finding is the suppressing effect of oral presentations on bid protests. Ironically, looking back at its formal adoption in the FAR Part 15 rewrite, opponents to oral presentations worried that in the absence of a written proposal, there would be no written record on which to base a protest and that oral presentations invited unfairness and arbitrariness in government source selections (Hannaway, 2000). It seems that the opposite is true. Oral presentations allow the





offeror to convey its capabilities and understanding of the contractual requirements (Hannaway, 2000). Once the offeror meets the evaluators in person and sees that the evaluators understand its offer, it may be more likely to trust that the evaluators are indeed fairly evaluating the offer. Nevertheless, using oral presentations properly without inviting a protest can be tricky, and this might explain why their use is not more ubiquitous. Indeed, only 20 of the 244 source selections employed oral presentations. The issue hinges on whether an offeror, by what it says outright or says in response to a question, changes its proposal (either written or oral). Once a proposal revision is accepted, discussions are effectively opened. And once discussions are opened with one offeror, in the interest of fairness, they must be held with all offerors – and held consistently across each discussed matter. Furthermore, discussions must be comprehensive and balanced across offerors; they must include all deficiencies and weaknesses. Interestingly, in the data, of the 20 uses of oral presentations, 10 were conducted without discussions meaning only very limited clarifications and communications were allowed. The utility of oral presentations may be questioned by source selection teams due to its restriction on communication and its invitation of protest risk if proposal revisions were inadvertently allowed. Nevertheless, since oral presentations curtail bid protests, acquisition teams should: (1) strongly consider its use during formal source selections, and (2) commission further research to diagnose why its current use is so low and how they can be conducted to reap the greatest benefit (e.g., no protest, better buyer-supplier relationships, better understanding of requirements, and improve supplier performance).

Transaction costs significantly decreased the probability of receiving a bid protest. This variable was measured as the number of FTEs. Thus, as the amount of human resources' efforts applied to a source selection increased, protest odds decreased. This finding suggests that for requirements in which time is of the essence, allocating additional personnel to the source selection in order to prevent a protest may be warranted. However, what is not addressed is the relative transaction cost of those personnel and whether the additional personnel costs are worth the savings from avoiding a protest (i.e., awarding a contract sooner).



While the quantity of document revisions was expected to reduce the odds of receiving a protest, they actually increase the odds. Source selection documents included the source selection decision document, comparative assessment/proposal analysis report, evaluation notices, source selection plan, debriefing script, technical evaluations, past performance evaluations, cost/price analysis, color rating chart, and evaluation briefing charts. It is common that these documents will be tediously and repeatedly scrutinized by many personnel serving in different roles on the source selection team such as the contracting officer, evaluators, committee reviewers, and legal counsel. Indeed, a post hoc test showed a positive correlation between protest fear and document revisions ( $r = .28$ ;  $p < .01$ ).

### *Human Factors*

The contracting officer's perceived fear of protest is positively related to protests. When the contracting officer is anxious and concerned about the possibility of a protest, it typically materializes. This attests to the contracting officer's ability to observe the evaluation process, the market, and the requirement, and then accurately predict an offeror's challenge. This finding is not surprising; procurement has long been labeled the boundary-spanning function in the firm most in tune with integrating suppliers into the buyer's mission (Hallenbeck et al., 1999). Within a government source selection, often the contracting officer serves as the source selection de facto program manager who manages milestones and integrates team members from disparate organizations such as financial management, engineering, logistics, legal, and the end user. In other words, the contracting officer observes all of the evaluation process and knows all of the players, including prospective offerors. His or her perspective and advice pertaining to the source selection should be sought and heeded by acquisition leaders since he or she appears to be adept at predicting a bid protest.

Past protest experience of the contracting officer also appears to matter, albeit in an unexpected way. It was expected that protest and source selection experience bolsters competence and ability, thereby reducing errors and future bid protests. Conversely, this research unveiled a positive relationship between protest experience – having ever experienced a sustained protest – and the likelihood of receiving a protest.



Hence, more past exposure to lost protests links to more future protests. This effect could be attributed to excessive workload. It could also be attributed to the complicated nature of government source selection; there are nearly countless mistakes and events that can trigger a bid protest. Those personnel who have experienced a protest may be more likely to be assigned to the more complicated source selections in the future that are more susceptible to protests. It should be noted that neither the quantity of protests previously experienced, number of source selections experienced, nor the years of contracting experience had an effect on the odds of receiving a protest. Thus, simple indicators of competence appear to be inadequate in explaining bid protests. It could also mean that the experience of only one source selection team member cannot predict a phenomenon (i.e., a protest) that depends on the experience of an entire team of personnel.

## **Managerial Implications**

This research confirms the effect of contract dollar value on the odds of receiving a bid protest. Higher-dollar acquisitions attract protests; thus, dollar value can serve as a reliable predictor of protests. Thus, for very large-dollar procurements, acquisition leaders can factor in protest adjudication time to the PALT. They can also take measures to thwart the protest such as assigning more resources to the source selection team.

Since source selections for services lend themselves to protests, more caution should be exercised in their design and execution. More experienced technical personnel could be allocated. Note that this research measured only contracting officer experience. Additionally, acquisition leaders should reconsider the part-time, ad hoc approach to staffing source selection efforts. In organizations with high-volume contracting, two strategies may help: (1) strategic sourcing, and (2) mobile source selection centers of excellence. First, strategic sourcing could help by centralizing requirements to organizations that employ greater numbers of more experienced contracting, legal, and technical personnel. Second, mobile centers of excellence can help by deploying expert teams to coach source selections locally. Alternatively, a secure, collaborative software could be used to facilitate collaboration on documents



and face-to-face communication between a distant center of excellence and a local source selection team.

Since the criticality of the requirement is associated with bid protests, acquisition leaders should gauge the criticality of each requirement to the requiring activity's mission. A standardized scale such as the one used in this research should be used to ensure reliable and valid measurement. Criticality levels could then serve as an indicator of protest risk. With greater risk, leaders can assign more resources such as PALT and experienced personnel. Acquisition leaders could also consider shorter contract durations to avoid a long-term lock out of an unsuccessful offeror. Alternatively, for longer contracts, acquisition leaders could consider designing periodic on-ramps to provide another opportunity to unsuccessful offerors. For planning, leaders can also expect a protest for those requirements with high criticality and factor in that added time until satisfying an internal customer's acquisition need.

Oral presentations appear to be underutilized in FAR Part 15 source selections (8.3% of the source selections). While oral presentations were reported to be appropriate for the situation (i.e., considering the risk, criticality, dollar value, contribution to the mission, and complexity) in 57 (24%) of the source selections, they were only used in seven of those (approximately 12%). This is puzzling and begs further probing. Since oral presentations decrease the likelihood of receiving a protest, source selection teams should explore ways to broaden their use. Additionally, policy makers should study the mechanisms underlying oral presentations to discern what aspects improve source selection decisions and what aspects decrease protests. If a key success attribute of oral presentations is the two-way dialogue between evaluators and offerors, it may be time to revisit the prudence of conducting oral presentations without discussions. Opening discussions will allow unhindered, in-depth, two-way communications between evaluators and offerors to ensure a full understanding of the offeror's capabilities, technical approach, and past performance. The dialogue can also convey to the offerors the government's commitment to impartiality and fairness, thereby build trust.



Acquisition managers should listen to the contracting officer's intuition. Contracting officers' assessments of concern over receiving a protest appear to be consistently reliable means of predicting a protest. In cases in which protest fear is high, more resources should be applied and acquisition teams should consider strategies identified herein as antecedents to bid protests (e.g., conducting oral presentations).

Surprisingly, source selection teams do not appear to be learning organizations. This could be due to their ad hoc, temporary basis. Exposure to additional source selections had no effect on protests, nor did additional years of contracting experience in general. Likewise, exposure to additional protests had no effect on the odds of receiving a protest. Nevertheless, experiencing a sustained protest at some point in a career is associated with odds of receiving a bid protest, albeit in an unexpected way. Prior experience of a sustained protest by a Contracting Officer appears to indicate greater odds of a future protest. Perhaps these professionals should be teamed with another contracting professional on a source selection. They could also be provided additional training and on-the-job testing. Persistent protest magnets could also be reassigned to a post-award contracting role. Further research is needed to explain the underlying reason for this finding before definitive implications can be made. Hence, correlations to other variables such as assignments to high-value, highly-critical source selections must be ruled out.

The data reveals that the LPTA source selection method is sometimes used to source requirements that are inappropriate to the buying situation. Nevertheless, its use showed no statistical effect on mitigating protests. Awarding more contracts than intended has also been mentioned as a strategy to avoid protests. Likewise, doing so showed no statistical effect on mitigating protests. Thus, no recommendations are made with respect to using these strategies as means to reduce protest. However, if expecting to avoid a protest solely by using an LPTA source selection method, acquisition leaders might reconsider.

This research also confirms the deliberate use of acquisition vehicles in order to circumvent the more stringent, protest-prone FAR Part 15 source selections.



Contracting officers reported substantial use of task/delivery orders, sole source contracts, and modifications to existing contracts as means to avoid protests. This means that many firms have been unfairly eliminated from an opportunity to win government contracts, and, absent intervention, will likely continue to be affected. Acquisition leaders should identify the barriers to FAR Part 15 source selections, and develop means to navigate them more efficiently and effectively. Acquisition leaders should also keep a pulse on the impacts to competition and small businesses.

The transaction costs of source selections is alarmingly high, averaging 243 thousand dollars each, or 6.6% of contract spend. These costs represent the labor effort and grade of assigned source selection team members. They have been linked to fear of protest (Hawkins et al., 2016). In other words, the threat of protests causes greater effort (i.e., transaction costs) to prevent a protest. This effect is manifested in the greater quantity of document revisions. Previous research examined the utility of bid protests and concluded, surprisingly without measuring costs and benefits, that protests are worth the costs (Gordon, 2013). This research adds to the discourse a quantified assessment of costs, but quantified benefits remain an opportunity for future research. The prime question remains whether the procedural justice afforded by protests is worth the high transaction costs of source selections. Another question can be raised – can the fairness of source selections be preserved while transaction costs are reduced? Additionally, transaction costs measured differently - as FTEs (i.e., excluding salaries) - reduce the odds of a protest. Thus, for procurements with features indicating a protest such as high-value, highly critical services, acquisition leaders can add human resources to the source selection team to lower the odds of a protest. Nevertheless, this research also found that document revisions actually increase the odds of receiving a protest. Logically, iterations of edits should result in improvements and fewer mistakes, but the opposite appears to be true. Acquisition leaders should, therefore, seek means to reduce document iterations. Standardization and automation of document writing and reviewing might reduce the number of seemingly needed revisions. Increasing the competence of each source selection team member might also help reduce the perceived need to revise documents. Reducing the number of different people involved in reviews might also reduce inconsistency across documents.



Nevertheless, more research is needed to further explore the precise underlying reason(s) that document revisions relate to increased odds of a protest.

A common way that service providers have been able to mitigate transaction costs while standardizing service levels and service quality is to standardize the service. This standardization is coupled with automation. For example, even complex offerings such as auto insurance can be procured online without human intervention on the sales side. Government buying agencies or commercial software companies could consider developing software with artificial intelligence to standardize evaluations, ratings, and tradeoffs to ensure proposal evaluation inconsistencies are eliminated, and prior bases of protests have been avoided.

## **Theoretical Implications**

Perhaps most importantly, this research shines light on an overlooked corner of justice theory – communications during relationship formation (i.e., source selection). This is important; much of the precedent of relational norms are established during the interactions during supplier selection. Evidence of the value of pre-award communication is found in this research; oral presentations decrease the odds of a protest. Understanding how they do so is important, and theories such as justice and relational exchange can guide investigations. Perhaps nonverbal communication allows offerors to gauge the extent that the buyer is genuinely interested in the offeror's fair treatment and chance of securing the business. Relatedly, what also has not been explored is any lingering impact of extreme or otherwise influential (in)justices in the past and how those (in)justices manifest themselves in future interactions, decisions, and behaviors.

Another aspect of justice theory that has heretofore been overlooked is the perspective of whose justice takes priority. Certainly the buyer perceives a right to efficiently choose the supplier believed to offer the best chance of satisfying the buyer's needs. How just is a delay to the government's mission? To the taxpayer, how just is spending 77 percent more on arriving at a selection decision than on the service being procured – as one record demonstrates in this research. On the other hand, the market and the taxpaying public claim entitlement to fair opportunity and to the careful



expenditure of funds, respectively. How just is telling the market one set of evaluation criteria, then applying another unspoken one? How just is a selection decision based on a buyer's error? Is there a reasonable cost threshold on justice? At what point does the cost of justice become unjust?

## **Study Limitations**

This research is not without limitations. First, the response rate from the original data collection was low. A low response rate calls into question the external validity (i.e., generalizability) of the results and raises suspicion of systematic response biases. While the response rate is low, it is not uncommon in business research (Melnik et al., 2012). Second, the variables available in the data set do not include all possible causes of a protest. For instance, the extent that errors were made is not measured for each source selection. But, unless a protest is received, respondents will likely not be cognizant of their errors. Additionally, the admission of errors might be tainted by socially desirable response bias. Another relevant data element not available is the number of offers received; more offers should increase the probability of a protest. Nevertheless, by including transaction costs, the data did include a proxy of efforts to prevent errors. Omitted variables likely accounts for the low accuracy of classification of protest cases in the model. Additionally, one perceptual measure, source selection method appropriateness, was measured with a single-item scale precluding the assessment of its reliability. Another weakness of the logistic regression model is the distribution of the dependent variable responses. Of 240 records, only 43 were protested, which is not well balanced in levels of the dependent variable.

## **Future Research Directions**

Future research should confirm in a separate sample the effects found in this exploratory research. Of particular interest worthy of more in-depth attention is the contribution of oral presentations to justice perceptions. A better understanding of how oral presentations are conducted and whether such characteristics are meaningful in terms of contract outcomes and bid protests. Specifically, the media employed (i.e., face-to-face, telephone, video conference, or written), the characteristics of attendees,





and the content of information disclosed should be examined for any unique effects. Additionally, research should explore the extent of two-way dialogue in oral presentations given the restrictions on communications and the risk of opening discussions. Also, under what conditions are oral presentations employed? Under what conditions should they be employed? Why are they not used more often? Further research could explore what value is gained from constrained oral presentations in which discussions are not opened, and further, how oral presentations are conducted.

## **Conclusion**

This research offers a first step toward quantitative, transaction-level investigation into reasons for bid protests. While no one can prevent an interested party from filing a bid protest (Rumbaugh, 2010), the factors identified herein can help acquisition managers hedge against the likelihood. This research implicates the importance of criticality of the procured item or service, services (versus goods), oral presentations, protest fear, protest experience, and cost reimbursement contracts in receiving a bid protest. These exploratory findings suggest useful directions for future research into this nascent stream of investigation.



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## Appendix A. Measurement Scales

Label	Scale question
<i>Protest Fear</i>	
FEAR <sup>1*</sup>	At some point during the development of the acquisition strategy or the source selection process, I worried about receiving a bid protest.
FEAR <sup>2*</sup>	I was concerned that the contract award would be protested
FEAR <sup>3*</sup>	I was anxious to get beyond the 10-day point after contract award (or debriefings) to determine whether or not the contract would be protested.
FEAR <sup>5**</sup>	During the development of the acquisition strategy and throughout proposal evaluation, to what extent were you concerned that an offeror might protest the contract award?
<i>Procurement Administrative Lead Time</i>	
PALT <sup>1*</sup>	The milestones for awarding this contract were too aggressive.
PALT <sup>2*</sup>	I was not rushed to award this contract.
PALT <sup>3*</sup>	I had sufficient time to get this contract awarded.
<i>Compromised Technical Evaluation</i>	
CTE <sup>2*</sup>	At least one technical evaluator expressed concern about not being able to say what needs to be said in the technical evaluation.
CTE <sup>3*</sup>	At least one technical evaluator was concerned that the constraints imposed on their evaluations impeded his/her ability to write a meaningful evaluation.
CTE <sup>6*</sup>	Upon evaluation of proposals, at least one technical evaluator expressed a need to change at least one evaluation criterion or its definition.
<i>Criticality</i>	
CRIT <sup>2*</sup>	This requirement supported a core competency of our customer's organization.



CRIT<sup>3\*</sup> Compared to other purchases for this customer, this requirement was important.

CRIT<sup>4\*</sup> An unsuccessful outcome of the RFP would have had only minor consequences to our customer. (Reverse Coded)

---

*Acquisition  
Strategy  
Appropriateness*

ACQSTAPP<sup>1\*</sup> Our acquisition strategy was the best means to source our requirement.

ACQSTAPP<sup>2\*</sup> Our acquisition strategy was the best means to achieve our acquisition objectives.

ACQSTAPP<sup>3\*</sup> It would have been difficult to achieve our goals without the use of our acquisition strategy.

ACQSTAPP<sup>4\*</sup> The source selection method we used (i.e., LPTA, full-tradeoff, or PPT) was the most appropriate for this requirement.

ACQSTAPP<sup>5\*</sup> Our acquisition strategy ensured we selected the best offeror.

ACQSTAPP<sup>6\*</sup> Our acquisition strategy provided the best fit to the buying situation (e.g., complexity, dollar value, acquisition objectives, contract length, performance risk, criticality to the mission, availability of supply, time available to award a contract, etc.).

---

*Protest Risk*

PR<sup>1</sup> Increased costs to settle a terminated contract(s)

PR<sup>2</sup> Time delay to the mission.

PR<sup>3</sup> Embarrassment/shame.

PR<sup>4</sup> Increase in workload to resolve the protest.

PR<sup>5</sup> Career repercussions for making a mistake or omission that caused a bid protest.

---

*risk = probability of occurrence (rated 1-10) x magnitude of consequences (rated 1-10)*

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*Source  
Selection  
Method  
Appropriateness*

Rate the appropriateness of the source selection method for the requirement on a scale of 1 to 7, where 1 represents “completely inappropriate” and 7 represents “completely appropriate.” Appropriate, in this context, means the source selection method is the best fit to the buying situation (e.g., complexity, dollar value, acquisition objectives, contract length, performance risk, criticality to the mission, availability of supply, time available to award a contract, etc.).

---

*\*anchors strongly agree and strongly disagree*

*\*\*anchors not at all concerned and extremely concerned*









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