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What are the Effects of Protest Fear?

17 June 2014

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Abstract

Fear of the real or perceived consequences of receiving a bid protest exists. U.S. Navy contracting officers have some concern of protests. This concern can be linked to certain consequences on acquisition strategies. There is enough qualitative and quantitative empirical evidence to suggest that fear of protest can impact what would otherwise be prudent business decisions. The greatest concerns are a few instances of inappropriate uses of lowest price technically acceptable and the reduced technical evaluation effectiveness attributed to fear of protests. If fear waters down the source selection hindering its ability to distinguish between the true value of offers, then contracting officers must ask themselves why go through the trouble of a best-value source selection? Could contracting officers simply award to the low bidder? To what extent is the set of stringent source selection rules driving the acquisition team to this result by default (i.e., regardless of source selection method actually employed)? Thus, for the sake of stringent, fairness-based rules, contracted outcomes can be compromised. Whether the tradeoff is prudent remains to be determined. Further research is needed to ascertain these other culprits, then compare the relative effects of fear of protest among other factors.

Keywords: Contracting, acquisition strategies, fear, protest, LPTA, trade off, source selection, procurement administration lead time, competence, risk, requirement criticality, discussions, technical evaluation effectiveness, performance, transaction cost, authority

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About the Authors

LCDR Suquon Combs is a native of Augusta, Ga. He was commissioned as a Naval Flight Officer after attending the Naval Academy Preparatory School in Newport, RI, and the United States Naval Academy in Annapolis, MD, where he graduated with a Bachelor of Economics degree in 2003. In 2004, he was re-designated as a Supply Corps Officer.

His shore assignments include the Customer Service Officer, NAVSUP Fleet Logistics Center, San Diego from 2007 to 2010. Half way through his tour, he participated in a year long Individual Augment assignment in Afghanistan as an Embedded Training Team Advisor. As an Advisor, he mentored five Afghanistan National Army senior officers in logistics.

His first sea tour was the Food Service Officer and Sales Officer onboard the USS COWPENS (CG-63) in Yokosuka, Japan from 2005 to 2007. His second sea tour was the Supply Officer onboard USS DUBUQUE (LPD-8) from 2010 to 2011 during her final deployment and decommissioning. Finally, he served as the Stock Control Officer onboard USS PELELIU (LHA-5) from 2011-2012.

After graduation in June 2014, he will report to the Naval Space and Warfare Center San Diego, CA as a Contracting Officer.

Lieutenant Brian Colbert was born in Los Angeles, CA. He graduated from Gentry High School in Indianola, MS in 1993. Lieutenant Colbert enlisted in the US Navy on 6 February 1996 and received training at SK (storekeeper) “A” School with follow-on training at Basic Enlisted Submarine School.

Lieutenant Colbert’s first sea tour was as a member of the Storekeeper division onboard the USS HAMPTON (SSN767). During this tour, Lieutenant Colbert made Second Class Petty Officer and obtained several SK NECs. His next tour was at Priority Material Office Norfolk serving as a Fleet Expeditor. During this tour, Lieutenant Colbert obtained his Bachelor of Science Degree in Computer Information Systems from St. Leo University. Afterwards, Lieutenant Colbert attended Officer Candidate School in Pensacola, FL and was commissioned on March 19, 2004.

Upon completion of several months of training, Lieutenant Colbert’s served as Supply Officer of the USS NEVADA (SSBN733B) from December 2004 to June

2007. His next assignment was as a Naval Acquisition Contracting Officer at Naval Space and Warfare Center Headquarters, San Diego, CA from July 2007 to October 2009. Lieutenant Colbert completed a GSA tour serving as the Chief of the Infrastructure Support Branch at the Joint Contracting Command Iraq, RCC-Central from December 2009 to June 2010. His next assignment was to the USS BOXER (LHD 4), where he served as the Stock Control Officer and Principal Assistant for Logistics from August 2010 to December 2012. He is currently obtaining a Masters in Business Administration from the Naval Postgraduate School.

He is a 2011 Navy and Marine Association Leadership Award winner with qualifications as Submarine Supply Corps Officer, Naval Aviation Supply Officer, and Surface Warfare Supply Corps Officer. His decorations also include Joint Service Commendation Medal, Navy Commendation Medal (four awards), and the Navy Achievement Medal (three awards). He is married to Kim Colbert of Silver Creek, MS and has one daughter, named Alexis.

LCDR Calandruccio currently attends the Naval Postgraduate School. He is attaining an MBA in the curriculum of acquisition and contract management and will graduate June 2014. Jason is a native of Newtown, CT. He graduated with a BS in Information Technology from Southern Polytechnic State University.

LCDR Calandruccio's sea tours include Disbursing Officer/Food Service Officer onboard USS CLEVELAND (LPD7) and Supply Officer USS CAPE ST GEORGE (CG71).

His Shore assignments include Defense Contract Management Agency, located in Syracuse, NY where he served as a Program Integrator for many large ACAT level programs as well as a contract administrator. Also, Jason served a one year tour in various areas of Afghanistan providing administrative contracting support.

Jason is a qualified Surface Warfare Supply Corps Officer and has attained a Level II DAWIA certification in Contracting. His Awards include the Joint Service Commendation Medal (2), Navy Commendation Medal (3), and a Navy Achievement Medal.

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List of Acronyms and Abbreviations

ANOVA	analysis of variance
APDP	Acquisition Professional Development Program
AT&L	Acquisition, Technology, and Logistics
BPA	blanket purchase agreement
CONUS	continental United States
COR	contracting officer representative
CRS	Congressional Research Services
CPAF	cost plus award fee
CPFF	cost plus fixed fee
CPIF	cost plus incentive fee
CSIS	Center for Strategic and International Studies
DAWIA	Defense Acquisition Workforce Improvement Act
DOD	Department of Defense
EFA	exploratory factor analysis
EOFY	end of fiscal year
FASA	Federal Acquisition Streamlining Act
FAR	Federal Acquisition Regulations
FFP	firm fixed price
FPDS–NG	Federal Procurement Data System–Next Generation
FSC	federal supply code
FY	fiscal year
GAO	Government Accountability Office
KO	contracting officers
IDIQ	indefinite delivery/indefinite quantity
LCS	Littoral Combat Ship
LPTA	lowest price technically acceptable
MAC	multiple award contracts
MANOVA	multiple analysis of variance

OCONUS	outside continental United States
OUSD (AT&L)	Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics)
OJT	on-the-job training
PALT	procurement administrative lead-time
PCO	procuring contracting officer
PPT	price past performance trade-off
PVF	Public Value Framework
PSC	product service code
RFP	request for proposals
SBA	Small Business Administration
SLDCADA	Standard Labor Data Collection and Distribution Application
SPSS	Statistical Package for the Social Sciences
SSC	source selection council
SSMA	source selection method appropriateness
SSMF	source selection method fit
SST	source selection team
T&M	time and material

I. INTRODUCTION

> "Men go to far greater lengths to avoid what they fear than to obtain what they desire." —Dan Brown, *The Da Vinci Code*

A. BACKGROUND

The U.S. government is the "world's largest buyer of products and services," according to the Small Business Administration (SBA) (2012, p. 2). From pens and pencils to the joint strike fighter and littoral combat ship (LCS), over $500 billion in goods and services has been purchased annually since fiscal year (FY) 2007. However, starting in FY2008, year-over-year contract spending has been declining because of fiscal constraints. Early estimates by the Government Accountability Office (GAO) project FY2013 spending to be approximately $460 billion, which is down from $513 billion spent in FY2012.

In an environment of fiscal prudence, acquisition professionals are charged with the proper stewardship of taxpayer funds. The Federal Acquisition Regulation (FAR) charges the members of the acquisition team with exercising "personal initiative and sound business judgment in providing the best value product or service to meet the customer's needs" (FAR 1.102(d)). The FAR also states, "An essential consideration in every aspect of the system is maintaining the public's trust. Not only must the system have integrity, but the actions of each member of the team must reflect integrity, fairness, and openness" (FAR 1.102-2(c) (1)). One mechanism that is installed in the system to ensure integrity and fairness is the protest system.

Protests ensure "that entities doing business with the government can air their complaints about governmental contracting processes and obtain relief" (Manuel & Schwartz, 2011, p. 3). Without a forum for businesses to air these complaints, they could become unwilling to do business with the government. Protests also address the FAR requirements of integrity, fairness, and openness by providing for the "accountability of procurement officials and government agencies by highlighting and correcting mistakes and misconduct" (Manuel & Schwartz, 2011, p. 3).

According to FAR 33.101, a protest is "a written objection by an interested party" concerning

- A solicitation or other request by an agency for offers for a contract for the procurement of property or services.
- The cancellation of the solicitation or other request.
- An award or proposed award of the contract.

- A termination or cancellation of an award of the contract, if the written objection contains an allegation that the termination or cancellation is based in whole or in part on improprieties concerning the award of the contract.

Only “interested parties” can file a protest. FAR 33.101 defines an interested party as “an actual or prospective offeror whose direct economic interest would be affected by the award of a contract or by the failure to award a contract.” Interested parties can file the protest at any one of the following venues: the agency, Government Accountability Office (GAO), or the U.S. Court of Federal Claims.

Agency protests must be received either before “bid opening or the closing date for receipt of proposals” for issues with the solicitation (FAR 33.103(e)). Unsuccessful offerors have 10 days to file a protest after the impropriety is known, or they have five days after an unsuccessful offeror debrief is conducted. Alternative dispute resolution should be attempted prior to the protest filing. Agencies should make their best effort to resolve these protests within 35 days (FAR 33.101(g)).

Protests to the GAO comprise the majority of all protests filed. The same time line for submission of agency protests applies to protests to the GAO. The protestor must provide a copy to “the official and location designated in the solicitation or, in the absence of such a designation, to the contracting officer, so it is received no later than 1 day after the protest is filed with the GAO” (FAR 33.104 (a)(1)). The contracting officer must immediately suspend performance on the contract in dispute if already awarded or terminate the contract. If the contract has not been awarded, the contracting officer should notify those offerors in the competitive range (FAR 33.104 (b)(3)).

An overall summary of protest decisions from the GAO can be found in Table 1. For FY2013, Congress added the requirement for the GAO to include “a summary of the most prevalent grounds for sustaining protests” (GAO, 2014). During 2013, the most prevalent reasons for sustainment were

- failure to follow the solicitation evaluation criteria,
- inadequate documentation of the record,
- unequal treatment of offerors, and
- unreasonable price or cost evaluation (GAO, 2014).

Table 1. Bid Protest Statistics for Fiscal Years 2009–2013 (from GAO, 2014, p. 4)

	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009
Cases Filed[1]	2429 (down 2%[2])	2,475 (up 5%)	2,353 (up 2%)	2,299 (up 16%)	1,989 (up 20%)
Cases Closed	2,538[3]	2,495	2,292	2,226	1,920
Merit (Sustain + Deny) Decisions	509	570	417	441	315
Number of Sustains	87	106	67	82	57
Sustain Rate	17%	18.6%	16%	19%	18%
Effectiveness Rate[4]	43%	42%	42%	42%	45%
ADR[5] (cases used)	145	106	140	159	149
ADR Success Rate[6]	86%	80%	82%	80%	93%
Hearings[7]	3.36% (31 cases)	6.17% (56 cases)	8% (46 cases)	10% (61 cases)	12% (65 cases)

This was the first time since FY2009 that protests did not increase year over year, but these numbers can be misleading. When measured against the number of contract actions awarded, the number of protests represents less than one percent. However, the percentage went up slightly for FY2013. In FY2011 and FY2012, protests represented .014 percent of contracting actions awarded across the federal government. In FY2013, that number rose to .018 percent of federal actions. So, while the overall number of protests filed declined by two percent, the number of contract actions also declined by 23 percent. According to these numbers, the protest situation got slightly worse.

No agency can prevent a protest, but a well-prepared plan can minimize potential grounds for protest (Rumbaugh, 2010, p. 427). As the GAO has identified, there are numerous reasons why an interested party might choose to file a protest:

> A number of analysts have suggested that companies are increasingly likely to file protests when it is in their business interest to do so, even when they do not believe there was an error in the procurement process. When agencies do not adequately debrief losing bidders, the losing companies may file a protest to determine why they lost the competition. Other reasons companies may protest, include hoping to influence the outcome of future competitions (akin to “yelling at the referee”); proving to shareholders and executive managers that they are doing everything they can to win contracts; or even seeking to hurt the competition by delaying a contract award. (Schwartz et al., 2013, p. 12)

Even though the GAO's sustainment rate is minute when compared to the number of procurements awarded throughout the federal government, the Department of Defense (DOD) acquisition workforce thinks that it is crucial to avoid protests (Gordon, 2011). An agency's best policy to prevent a protest is to mitigate the causes of the protest. This desire to avoid a protest is the driving force behind acquisition decisions, internal and external policies, and resources needed to deliberately or subconsciously remove the threat of a protest. Throughout the remainder of this study, the desire or priority to avoid bid protests is referred to as the fear of protests.

B. PROBLEM STATEMENT AND GAP IN LITERATURE

According to three Congressional Research Service (CRS) reports (Manuel & Schwartz, 2011; Schwartz, Manuel, & Martinez, 2013; O'Rourke, 2014), Gordon's publication (2013), and other publications (Knauth, 2013; Maser et al., 2010; Kendall, 2012), the fear of protests exist. Fear exists because no agency can prevent a protest, and protests may result in the following:

- issuing a stop work order to suspend performance,
- reevaluating proposals,
- awarding proposal preparation and protest filing cost to the successful protester, or
- terminating the awarded contract and re-soliciting the requirement (Rumbaugh, 2010, p. 415).

These protest results add costs, deplete resources, and create other intangible effects (e.g., a diminished reputation) to an agency. Based on the protest results, protests could be considered a problem to an agency or procurement, even though protests are an avenue in ensuring fairness, transparency, and accountability in the federal acquisition system. To mitigate the concern of protest, agencies change their acquisition strategies and outcomes. There is no data that exist to show the true monetary and nonmonetary effects of such mitigation as a result of fear.

Frank Kendall, Undersecretary of Defense for Acquisition, Technology and Logistics (AT&L), spoke at a Center for Strategic and International Studies (CSIS) conference in Washington, DC. The moderator asked Mr. Kendall,

> My question—my concern goes to things that I heard when I was in the White House, but also what I heard as part of my participation on the procurement round table, and that's the fear in the acquisition work force on the part of our contracting officers, contract specialists and what that fear is driving them to. (Kendall, 2012)

In response, Kendall acknowledged that fear exists within the DOD:

> The fear of protest does exist out there. It kind of permeates through the system. You know, I think at the end of the day we should not be paranoid—or paralyzed, is probably a better word—by fear of protest or by fear of litigation. (Kendall, 2012)

Kendall, who is the head contracting official for the DOD, alluded to paralysis by the fear of protest. Evidence is presented in this thesis that shows the causes and effects of this paralysis.

There is evidence that Navy acquisition professionals and senior leaders were fearful of a protest for the Navy's LCS. According to the Congressional Research Service report, it was insinuated that the desire to avoid a protest situation affected key decisions:

> What role, if any, did a desire by the Navy to avoid a potential contract protest against the Navy's down select decision play in the Navy's decision to propose the alternate dual-award strategy? For example, how concerned, if at all, was the Navy that the announcement of an LCS down select decision might lead to a contract protest and controversy somewhat like what has been experienced in the Air Force's KC-X aerial refueling tanker acquisition program? (O'Rourke, 2014, p. 68)

A December 13, 2010, press report on the LCS program stated, "One high-level Navy source recently said that without the dual-ship approach, 'there is 100 percent chance of a protest'" (Cavas, 2010). As a result of this fear, the Navy changed its acquisition plan from a down select to a dual-award strategy.

While scholars and the GAO have identified these deleterious effects of bid protests on the government (Gordon, 2013), no research or studies to date have quantified them. In other words, we do not know the magnitude of fear of protests. More specifically, we do not know the following: the extent that fear of a protest affects acquisition strategies, the monetary and non-monetary costs of a bid protest, and the lengths that DOD acquisition professionals would go to avoid a protest. According to Gordon, in turn, the overwhelming culture among DOD contracting officers is to avoid protests to the maximum extent possible. Contributing to the level of fear is the fact that protests often impose litigation costs, termination costs, transaction costs, and opportunity costs on the government; add to the workload of a shrinking acquisition workforce; delay the time of contractor performance and delivery; and bring shame to the source selection team (SST). Even when a bid protest is denied, it usually holds up the protested acquisition (Gordon, 2013).

Gordon went on to talk about the effects of protest fear: "Another concern about the cost of the protest system relates to what might be called its indirect impact. Fear of protests is often given as the explanation for contracting officers'

preference for certain courses of action over others" (Gordon, 2013, p. 36). According to one GAO report, protest fear can negatively influence agency behavior.

> Fear of protest may motivate agency officials to conduct more rigorous market research, hold a competition instead of awarding a sole-source contract, or conduct more thorough and fair competition. On the other hand, fear of a protest could also prompt officials to try to structure a contract in a manner they deem less likely to be protested, such as using lowest price technically acceptable award criteria instead of a best-value competition. (Schwartz et al., 2013, p.12)

When acquisition professionals structure a solicitation using lowest price technically acceptable (LPTA) source selection methodology instead of using trade-offs, they could be hurting the industry and the customer. "The president of a major satellite services provider said the U.S. military's 'lowest price, technically acceptable' procurement strategy is stifling innovation and ultimately shortchanging war fighters" (Magnuson, 2014, p. 1). This comment suggests that one unintended consequence of bid protest is an inappropriate acquisition strategy, namely the source selection method. However, no quantifiable data exists that explores the relationship between the fear of protest and the appropriateness of the acquisition strategy.

This research will address the causes and deleterious effects of protest fear, and examine the effects of fear on the acquisition system. The research will analyze the data to determine whether there are any significant correlations between the cause and effects of fear, and we attempt to quantify the magnitude of fear within the U.S. Navy. It will then analyze the data to present ways in which acquisition leaders across the DOD can mitigate this fear.

C. RESEARCH OBJECTIVES

The objective of this research is to address in depth the true causes and effects of bid protest fear. Specifically, we explore the following research questions:

- Are contracting officers sufficiently concerned about bid protests to alter acquisition strategies?
- If so, what factors affect protest fear?
- What are the consequences to the acquisition strategy and contract outcomes?

D. METHODOLOGY

Because of the nature of the research questions, it is appropriate to use a combination of qualitative and quantitative methodologies. Literature from several governmental, public, and private studies and reports are used to develop the

conceptual model, hypotheses, interview questionnaire, and survey. The existing literature is used to identify problems that have not been addressed—namely the magnitude, antecedents to, and consequences of a fear of protest. The existing literature left an opportunity for further research into an area that would be considered beneficial to the acquisition professionals across the federal government.

To ensure that this research explored the most likely and predominant cause and effect variables of a fear of protest, several interviews were conducted at two major Navy contracting activities. The goals of the interviews were to validate the conceptual model, identify potentially key omitted variables, and validate the measures of variables for which there existed no measurement scales.

A survey was deployed online to a population of U.S. Navy contracting officers and specialists. The data was then used to perform multiple regression analysis of causal relationships per the conceptual model.

E. ORGANIZATION OF THE STUDY

This study is broken up into several chapters. Chapter II is the literature review. This chapter will discuss and provide an overview of several applicable theories. In Chapter III discusses the methodology used, which includes the research and survey designs, interviews, and construct measurements. The data results, exploratory factor analysis, and data regression models are discussed in Chapter IV. Finally, the findings will present answers to the research questions, and offer managerial implications and recommendations in Chapter V.

F. SCOPE

Due to time, resources, and administrative constraints, this research was limited to U.S. Navy personnel. Furthermore, this research focused on both military and civilian contracting officers who make up the Navy's acquisition workforce within the United States and overseas locations. This research represents a wide variety of goods and services procured using FAR Part 15 source selection methods above $150,000, a wide variety of supported units' mission, and a range of contracting commands within the U.S. Navy. We only analyzed formal contracting practices in accordance with FAR Part 15; contract action awards pursuant to FAR Parts 13 and 8 were not considered since the probability of receiving a protest of simplified and delivery/task orders is lower. Under FAR Part 8, protests are lower because the government is using mandatory sources for products and services. Under FAR Part 13,

> Unless the contract action requires synopsis pursuant to 5.101 and an exception under 5.202 is not applicable, consider solicitation of at least three sources to promote competition to the maximum extent

practicable. Whenever practicable, request quotations or offers from two sources not included in the previous solicitation. (FAR 13.104)

Under FAR Part 15, there is a greater chance for protest because of the effects of best value (LPTA and trade-off) under full and open competition.

G. MANAGERIAL AND THEORETICAL IMPLICATIONS

A study that explores the causes and effects of the fear of protest is beneficial to DOD and federal government acquisition practitioners. First, if the fear of a bid protest is significant, source selections may result in the selection of a sub-optimal contractor, thereby compromising performance and buyer satisfaction. Alternatively, agencies may award excessive contracts to avoid protests. This increases transaction costs and contradicts strategic sourcing goals. It can also unnecessarily increase contractors' bid and proposal costs as they compete for individual task orders under multiple-award contracts (e.g., indefinite delivery, indefinite quantity [IDIQ]). Additionally, such fear may also lead SSTs to substantially increase transaction costs as extra measures are taken to avoid bid protests. These extra measures also delay receipt of contractor performance, thereby impeding the mission.

Second, the acquisition community can use the results of this study to become aware of the effects of such fear and its implications. With this awareness, the acquisition community can decide where in the acquisition process to allocate additional resources to reduce fear of protest and the subsequent consequences. This strategy allows the acquisition community to be proactive instead of reactive in dealing with fear and its consequences.

Third, acquisition leaders and planners within the community can use the information to quantify and assess the amount of man hours, money, and people (i.e., resources) that are being consumed because of protest fear. With this information, acquisition leaders and planners can better align their internal/external policies, acquisition strategies, and resources to mitigate the causes and effects driving the fear of protest, which ultimately can save money. In addition, acquisition professionals can understand and quantify the resources spent on source selections. With the understanding of the amount of human capital, time, and resources, the agency can determine which internal/external policies and acquisition strategies are not cost effective. Lastly, the amount of human capital, time, and resources spent on bid protest mitigation is an opportunity cost of human capital, time, and resources that could have been devoted to other critical areas. This is critical for leaders, because as the DOD budget gets smaller, human capital, time, and resources will become very precious commodities that agencies cannot afford to waste or allocate to inopportune activities.

Finally, this study recommends additional research into the fear of protest across different government agencies. Each agency has different acquisition workforce compositions, cultures, acquisition policies and strategies; the U.S. Navy's perspective can only be used as a point of reference. This does not reflect the true level of fear, causes, and effects across the federal government. But this study can be used as a starting point for further research.

H. CONCLUSION

In conclusion, this study examines the fear of a bid protest—a phenomenon purportedly having a significant effect on acquisition decisions. This chapter discusses the problem statements and literature gaps along with the methodology that describes the approach to collecting data to answer the research questions. The following chapter discusses applicable theories along with the research hypotheses and the conceptual model.

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II. LITERATURE REVIEW

A. INTRODUCTION

The Public Value Framework (PVF; Moore, 2000) and Stakeholder Theories can be applied to the fear of bid protests from an economic and managerial perspective. This chapter provides further explanation of the study's conceptual model, research objectives, variables, and hypotheses. A visual representation of the model and a summary of the hypotheses are provided at the end of the chapter.

B. BID PROTESTS

There are numerous reasons why an interested party might file a bid protest. According to a 2013 CRS report,

> According to analysts, the most common government errors cited in protests are poorly written or vague contract requirements, failure to follow the process or criteria laid out in the request for proposals, and failure to adequately document their findings. Some analysts have attributed these errors to an inexperienced or insufficiently trained acquisition workforce. (Schwartz et al., 2013, p. 11)

Although there are many causes for protest, the most typical include

- improper agency evaluations,
- a lack of meaningful discussions,
- defective solicitations,
- improper exclusion from the competitive range,
- a lack of cost realism, and
- agency bias or bad faith (Rumbaugh, 2010).

A particular business could file a protest whether the protest is frivolous or not.

The threat of a protest can influence agency acquisition behaviors. Instead of having full and open competition, end user customers and acquisition professionals could structure a sole source contract. Instead of awarding a single contract (as originally intended per the acquisition strategy), multiple award contracts are sometimes awarded in order to avoid a protest. In instances where a trade-off source selection methodology is more appropriate in order to attain the best value to the government, an LPTA methodology is sometimes used. Instead of limiting proposals in the competitive range, non-qualifying or non-competitive proposals are

retained. Instead of conducting discussions, agencies may award without discussions.

Protests come with monetary and non-monetary costs. An agency must incur costs to prevent a potential bid protest (e.g., thoroughly documenting and substantiating proposal evaluations and trade-off decisions), to defend against an actual protest, and to take corrective actions. The end users bear costs as well, since their requirements are delayed or jeopardized. For example, building, fielding, and sustaining two varieties of LCS platforms are substantially more costly than doing so for one variety. All parties involved in a bid protest incur the opportunity costs of their best choice. For example, an agency allocating time and people to prevent a protest diverts time and people from other critical requirements. The time and peoples' salaries or wages are the opportunity cost for the critical requirements.

C. PUBLIC VALUE FRAMEWORK

PVF was introduced by Harvard professor Mark H. Moore and has been used to evaluate and identify value in, mainly, the public sector. Value in the public sector is much different than it is in the private sector. Often in the private sector, industry uses shareholder value as a means of evaluating itself. The private sector, however, is much different. PVF has been utilized to "get public managers thinking about what is most valuable in the service that they run and to consider how effective management can make the service the best that it can be" (Coats & Passmore, 2008, p. 4).

PVF for application in the government sector can be explained by the strategic triangle (Heymann, 1987; Moore, 1995). These three elements are public value, legitimacy support, and operational capability. In contrast to private sector operations, the government's strategy does not revolve around a specific bottom line, such as shareholder wealth. Contracting professionals are often satisfying multiple entities, such as regulatory requirements (e.g., the FAR), internal customers, the private sector, and stewardship of taxpayer resources. According to Moore, the first element, value,

> directs managerial attention to the value proposition that guides the organization. For an enterprise to succeed in producing value, the leaders of the enterprise have to have a story, or an account, of what value or purposes that the organization is pursuing. They need a reason for the organization's existence, a claim about the way in which the world would be made better through the operations of the enterprise. (Moore, 2000, p. 197–198)

In essence, value in a governmental organization equates to mission.

Moore stated that legitimacy and support

> directs managerial attention to the question of where the support for pursuing the value will come from. It is not enough that an entrepreneurial leader judges some purposes to be valuable. Others, who provide the necessary financial resources and authorization, have to agree with that judgment. In government, those others include citizens, elected representatives, interest groups, and the media, which has been called the 'authorizing environment' of the organization (Heymann, 1987; Moore, 1995). (Moore, 2000, p. 198)

With regard to the fear of protest, there may be an element of shame if a source selection is protested, particularly if there is a notion that management would not support the contracting officers and that the protest may reflect poorly on them. High dollar contracts, in particular, hold great interest to our media and our elected officials. A protest would reflect negatively on the contracting official as well as the contracting office. With these concerns in the back of a contracting officer's mind, there can be a tendency to take measures in order to avoid a protest that can sub-optimally contribute to a source selection. For example, the officer may rely too heavily on LPTA rather than utilizing a best value approach. Fear of a protest is understandable. Time has to be devoted to address the requirements of a protest. Ultimately, contracting offices then have less time and resources to devote to other requirements. The needs of the customer do not stop because of a protest. This, in turn, has an adverse effect on contracting officer's legitimacy and decreases the value of the contracting element.

> Finally, operational capacity focuses attention on the question of whether sufficient know-how and capability exist to achieve the desired results. Often, this capability lies entirely in the organization that the manager leads. However, sometimes it lies outside the organization's boundary, and the organization has to find ways to engage capacities beyond its own to achieve the desired result by creating partnerships of various kinds. (Moore, 2000, p. 198)

Experience and workload levels can often be elements that contribute to the concern of a protest. If contracting officers have adequate experience, their likelihood to be affected by this fear can diminish. They have seen many source selections and know how to ensure they have a contract file that will stand the test of a protest. Conversely, those with lesser experience and a fear of protest from a legitimacy and support perspective may take additional steps to avoid a protest and, in turn, reduce the value of the organization by sub-optimally organizing the contracting strategy. In contracting there are often very busy times, most notably at the end of the fiscal year (EOFY). As the organization may be optimally manned for most of the year, it is likely they are not for the EOFY. During this time, requirements are coming in at a much faster rate and with less time to produce results. Also during this time, operational capacity can become hindered and lead to an increased fear of protest.

Contracting professionals add value to the country because they address the operational needs of our military and, at the same time, provide fairness and address the various public policy issues that are required by law and regulation. When these align, customers receive what they require at a fair and reasonable price, and this satisfies the requirements of governing policies. Through this, government contracting professionals add value to their stakeholders. Contracting officers sometimes take steps throughout the acquisition process to avoid a protest, such as minimizing discussions or even employing an LPTA source selection process when a full trade-off method is more appropriate (Gordon, 2013, pp. 36–37). When this occurs, our contracting system is not optimizing its value. When it treats a source selection with a fear of protest, the agency's value can be reduced.

Contracting officers are also accountable to provide fairness to commercial entities with which they contract for goods and services (FAR Part 1). Often, though, a fear of a bid protest will result in multiple award contracts including more contractors than would have been awarded if there was no fear of a bid protest. In multiple award contracts there is a minimum dollar value that a contractor is obligated to receive. This results in increased spending of taxpayer money that could have been more efficiently spent by awarding to fewer, more competitive contractors. This creates extra work for the contracting officer, duplicates inventory, can increase transportation costs, and results in non-optimal use of taxpayer money, and often upset contractors who never get an award under a multiple award contract for which they believed they were competitive. Although a reduced risk of a protest is accomplished, the PVF is disturbed, and there is ultimately less value added by the contracting process. What this does not accomplish is a best option for the customer or the taxpayer, nor does it provide fairness to the stronger contractors.

D. STAKEHOLDER THEORY

The stakeholder theory explains the people and entities' interest in a particular organization. A stakeholder in an organization is, by definition, any group or individual who can affect or is affected by the achievement of the organization's objective (Freeman, 1984). According to a stakeholder model of a corporation (Freeman, 2001), stakeholders for a firm are owners, suppliers, management, employees, customers, and the local community. For this research, the focus is on the contracting offices as the employees and the end-users as the customers. Contractors are the suppliers providing a service and/or a product, and the acquisition leaders, senior contracting officers, staff, and supervisors are the management. Other stakeholders in this research are congress, legal representation of the contracting office, and taxpayers/citizens. For the employees (contracting officers), their stake in the firm (contracting activity) could be job security, high wages, and job satisfaction. In return, employees are expected to follow the

instructions of management most of the time (Freeman, 2001). This presents an issue if fear of a protest exists at a higher principal level. Employees are expected to change their original acquisition strategy to continue to be stakeholders.

Suppliers (contractors) are vital to the success of the firm. In turn, the firm is a customer of the supplier (Freeman, 2001). For the contracting activity, the relationship with the contractor is vital. The contractor is a supplier of proposals, market research information, innovation, and competition. What happens when a supplier threatens the contracting activity with a protest or there is a fear of protest from a supplier? The employees, management, and customers might change their original acquisition strategy to keep the supplier as a stakeholder.

Customers provide the lifeblood of the firm (Freeman, 2001). Without customers, the firm would not exist. All organizations realize and understand this. Many organizations treat the customers as the principal and themselves as an agent in the principal-agent theory. To continue to get revenue and/or business, the agent aligns or focuses the organization's actions on the customer's needs. The agent needs the customer as a stakeholder to continue to exist.

Management (acquisition leaders, senior contracting officers, and contracting staff and supervisors) plays an integral role. Managers are the only group of stakeholders who enter into a contractual relationship with all other stakeholders. Managers are also the only group of stakeholders with direct control over the decision-making apparatus of the firm. Therefore, it is incumbent upon managers to make strategic decisions and allocate resources in the manner most consistent with the claims of the other stakeholders groups (Hill & Jones, 1992). Management must keep the relationships among stakeholders in balance. When these relationships become imbalanced, the survival of the firm is in jeopardy (Freeman, 2001). These imbalanced relationships among stakeholders and the threat of a protest could be a factor of fear. For example, a supplier (contractor) protests an award because the contracting activity did not maintain a good stakeholder relationship with the supplier. Since there were no discussions or meaningful debriefings, the supplier may protest just to get information. Management must devote people (employees), time, and resources to deal with the supplier's protest while still meeting the customer's needs. Management (agent) must satisfy the customer and the supplier base, take care of its employees, and be good stewards of the taxpayers' (principal) money.

Legal in many contracting activities is part of the management team. Its role is to advise the employees (contracting officers) and the management team of the legal aspect of acquisition procurement. Legal looks at the procurement from a different prospective to ensure there are no grounds for a protest from prejudice, errors in the procurement process, violations of statutes or regulations, and other

protestable actions. As a stakeholder, legal offers advice in regard to the source selection method. Based on our interviews, legal has influence in the source selection method.

Besides the employees, suppliers, customers, and management, there are other stakeholders that are an integral part of the contracting process. They are not involved in the day-to-day operation of the acquisition process.

Congress is an important stakeholder in the acquisition process. Congress exerts authority over the contracting process through the use of its constitutional powers (Cibinic, Nash, & Yukins, 2011, p. 38). The primary means of exercising its authority are through the enactment of laws establishing new programs and the appropriation of funds to pay for these programs (Cibinic et al., 2011, p. 39). The U.S. Constitution, Article 1, Section 9, Clause 7, states that "no money shall be drawn from the Treasury, but in Consequence of Appropriations made by law." Congress also exercises control and oversight over acquisition activities through requirements and limitations included in procurement statutes, authorizations acts, appropriations acts, and other statutes (Cibinic et al., 2011, p. 39). As a stakeholder, Congress authorizes several administrative or judicial forums to hear protests (Manuel & Schwartz, 2011, p. 3). Those reasons are to "ensure that entities doing business with the government can air their complaints about governmental contracting processes and obtain relief" and "enhance the accountability of procurement officials and government agencies by highlighting and correcting mistakes and misconduct" (Manuel & Schwartz, 2011, p. 3).

Without a protest forum, other stakeholders (i.e., suppliers and customers) would be less willing to do business with the government, thus decreasing competition, which could potentially drive up the cost of products and services (Manuel & Schwartz, 2011, p. 3).

Taxpayers/citizens represent a wide range of individuals. They can be considered as suppliers of funds through government taxation. As part of the general public, taxpayers can also be considered customers in that their tax dollars are spent on public goods and services. For example, taxpayers pay taxes to fund the military. The military protects and defends the general public in the event of an invasion. Taxpayers are employees, management, suppliers, Congress, legal, stakeholders and so forth in the acquisition process. As taxpayers in the acquisition process, stakeholders have a vested interest to see that their precious funds were not wasted, the procurement was awarded through the best source selection method for that particular procurement, and the acquisition process was fair to the public. This presents a challenge when different stakeholders have different views about which source selection method should be used.

This research examines the stakeholder theory costs and associated problems that arise from a fear of protest. Employees and management are primarily concerned about a protest from the supplier. All three stakeholders are trying to meet the interest of the customer.

E. HYPOTHESES AND CONCEPTUAL MODEL

1. Factors Affecting Protest Fear

There are numerous factors that affect a fear of protest. This study primarily focuses on three main factors contributing to the research hypotheses: literature reviews, theory, and logic.

a. Insufficient Procurement Administrative Lead-Time Planned

Insufficient procurement administrative lead-time (PALT) is the inadequate time allotted to accomplish an acquisition. Insufficient PALT is often the result of fiscal appropriation constraints that commonly occur toward the end of the fiscal year. Expedited requirements and poor planning are also common reasons that can lead to insufficient PALT. When sufficient lead-time is not allocated to properly define requirements, evaluation criteria, and instructions to offerors; train the technical evaluators; evaluate proposals; document evaluations and trade-offs; and prepare for and brief decision makers, protestable errors are more likely to occur. Thus, sufficient time renders the acquisition team capable of successfully performing a source selection. Absent sufficient time, operational capability is constrained.

Hypothesis 1: Insufficient PALT has a direct positive relationship on the level of fear of protest.

b. Contracting Officer's Competence

Competence is the contracting officer's contracting experience, educational background, and the professional Defense Acquisition Workforce Improvement Act (DAWIA) certification level the contracting officer holds. There is no substitute for experience and for the level of confidence one has in his or her ability as a contracting officer. The more experience a contracting officer has, the less concern of a protest there should be since the officer has more experience in techniques and practices to prevent bid protest. The contracting officer also has more knowledge of how to defend a protest if received, and thus, may worry about protests less because of the officer's increased operational capacity to handle a protest.

Hypothesis 2: The greater a contracting officer's competence level, the lower the level of fear of protest.

c. Requirement Criticality/Importance

How critical or important the requirement is to the overall mission of the customer will impact protest concerns. If the requirement is critical to the customer's mission effectiveness, there could be a tendency to use a procurement method that does not delay or jeopardize the award of the contract. This is because the value of a government agency (e.g., military unit) is determined by its mission effectiveness (Moore, 2000). If the delivery or performance of a good or service is delayed, the unit's mission will likely be delayed to some extent, compromising the unit's public value.

Hypothesis 3: The level of requirement criticality/importance has a positive impact on the level of fear of protest.

d. Protest Risk

Risk is defined as the product of the magnitude of consequences and the probability of their occurrence. The risks involved with a protest can be added time to complete the acquisition, delays to the mission, which can directly and negatively impact the war fighter, additional effort and resources required to resolve the protest, and personal shame and embarrassment experienced by the acquisition team. Protest may also be perceived as bringing negative career repercussions, such as preventing promotion or a direct admonishment. The likelihood of any of these negative consequences depends on the circumstances unique to each bid protest. Nonetheless, if the protest risks are high, the consequences could jeopardize the unit's public value (e.g., its mission effectiveness).

Hypothesis 4: As protest risk increases, the level of fear of protest increases.

2. Protest Fear and the Consequences to the Acquisition Strategy

Fear is a natural reaction to a threat. As a natural reaction, fear enables humans to remove the threat deliberately or subconsciously. In this case, fear of protest could be considered a natural reaction to the potential consequences if a bid protest was received. Acquisition professionals could deliberately or subconsciously remove the threat through their many acquisition strategy decisions. These decisions could be considered actions taken to prevent a protest.

There are numerous consequences to the acquisition strategy and contract outcomes as a result of fear. This study focuses on consequences identified from our literature review and interviews with subject matter experts and practitioners.

a. Quality of Technical Evaluation Effectiveness

According to FAR 15.304(b), evaluation factors and significant sub factors must (1) represent the key areas of importance and emphasis to be

considered in the source selection decision; and (2) support meaningful comparison and discrimination between and among competing proposals.

Agencies evaluate the competitive proposals and assess their relative qualities based only on the factors and subfactors specified in the request for proposal (RFP) (Rumbaugh, 2010).

As part of the evaluation, proposals are put in a competitive range. The contracting officer determines which proposals are within the competitive range based on the evaluated price and other evaluation factors included in the RFP (Rumbaugh, 2010, p. 338). A low-rated proposal could potentially be eliminated from the competitive range if the proposal does not meet the specified evaluation factors or subfactors in the RFP.

If the contracting officer and the source selection authority are concerned with a fear of protest, they could lower the evaluation factors and subfactors for all of the proposals. By lowering the factors, the lower-rated proposals are not eliminated from the competition, which mitigates the chances of a protest. The lower-rated proposal might be the winning proposal.

Hypothesis 5: The level of fear of protest has a negative effect on the technical evaluation effectiveness.

b. Source Selection Method Fit/Appropriateness

According to FAR 15.101-1, a trade-off process is appropriate when it may be in the best interest of the government to consider an award to a company other than the lowest priced offeror or other than the highest technically rated offeror. This process gives the source selection official very broad discretion when the offeror with the lowest cost to the government has not been evaluated based on the non-cost factors (Cibinic et al., 2011, p. 678).

According to FAR 15.101-2, the LPTA source selection process is appropriate when best value is expected to result from selection of the technically acceptable proposal with the lowest evaluated price. There are many reasons why a contracting officer might opt for the LPTA. One major benefit of this strategy is that the agency can greatly shorten the evaluation process because once the low price proposal has been found to be technically acceptable; there is no need to evaluate the acceptability of any other proposals. (Cibinic et al., 2011, p. 680).

The source selection appropriateness depends on the procurement requirement. According to one interviewee,

> Again, because my philosophy has always been what is the best way to make sure the customer gets what they want. Is it going to be something that either yes, they can offer or provide

> the product or service; yes or no, so it is a slam dunk. Low price, technically acceptable—or do you want to have the flexibility of best value where it is something that you want to encourage innovation or design or whatever else?

According to FAR Part 6.3, there are many reasons to use a method other than full and open competition. Based on the situation, a contracting officer might use any of those reasons with a valid justification and approval. If a contracting officer is concerned about a protest, he or she could structure, with justification, the requirement for a sole source acquisition. Having an approved justification restricts competition to a sole source. This prevents other companies from protesting. The use of sole source works well in situations where there is an emergency, the mission is in jeopardy, and/or time is very critical.

A contracting officer may not offer discussions because having communications could potentially cause a protest. One of the reasons businesses file protests is because agencies do not adequately debrief losing companies. Those losing companies may file a protest just to get information on why they lost the competition (Schwartz et al., 2013).

A contracting officer could also be afraid to talk to businesses. Every word the contracting officer says could potentially be used in the protest case. During a CSIS conference with Kendall, the moderator described this as “the fear of conducting discussions because contracting officers get it into their head that if they conduct discussions, they’re going to end up with a bid protest, and it’s just going to take too long, and they’ll get dinged” (Kendall, 2012).

According to Rumbaugh, if the agency has already received good proposals, then going into discussions is not likely to provide more value. It’s “not a good practice to conduct discussions to lower offerors’ prices when initial offers are fair and reasonable” (Rumbaugh, 2010, p. 326).

Hypothesis 6: There is a direct positive relationship between fear of protest and the Source Selection method fit/ appropriateness.

c. Contractor Performance

According to Gansler, Lucyshyn, and Arendt (2009), competition is important for the DOD because it can aid in increasing economic efficiency, innovation, quality, and performance. Competition can aid in economic efficiency (for both systems and services) by forcing firms to keep prices as low as possible in hopes of winning a contract. Likewise, increased innovation results from competitive pressures as firms seek new solutions to DOD problems through research and development while trying to differentiate themselves from competitors. Competition also impacts quality as firms attempt to improve the quality of a product over time,

which has the potential to drive lower-quality firms out of the market altogether. Finally, competition can also directly impact performance improvements for both weapons systems and services. (Gansler et al., 2009, p. 14)

The use of LPTA only requires the lowest price among offerors that meet the acceptable technical requirements. In some instances the quality of technical evaluations are degraded because of the check in the box mentality that the LPTA approach brings. Contractors have no incentive to improve on quality, economic efficiency, innovation, and performance. As a result, LPTA contracts might result in lower standards and performance. According to an article in *National Defense Magazine*, "He [president of a satellite company] pointed to one study by the research firm Market Connections in October that said LPTA contracts may result in standards and performance being lowered, and less than optimal prices for product development" (Magnuson, 2014). These lower standards and performance cost the government in schedule delays, cost overruns, poor contractor performance, rework, and ultimately unsatisfied customers. In cases where the requirement requires innovation or complex, and/or risk-taking requirements on both the government and contractor, LPTA might not be the appropriate best value method. For those requirements, the government is looking for the best overall proposal value. If LPTA was used for those innovations or complex or risky requirements, the contractor could be unable to complete the task because it truly did not understand the requirement reflected in the lowest price and minimum acceptable technical approach. The government could have to terminate the contract for default and then re-solicit and re-compete the requirement, which cost funds and resources. "When the government applies the strategy [LTPA] to unsuitable procurements, both the government and the bidders lose". (Lohfeld, 2012 p. 1)

The use of sole source versus competition does not incentivize the contractor to improve on quality, economic efficiency, innovation and performance. Sole source procurements create a monopoly. The monopoly can set its prices to yield the maximum profit. The monopoly has no incentives to reduce price or improve on the product's or service's capabilities. The government could potentially pay for the highest price for the least amount of innovation, performance, and quality. The trade-off to the sole source versus competition is the unusual and compelling situation in which time is of the essence.

Contractor performance is the measure of how well the contractor performed the contract based on the fit of the source selection and the quality of the technical evaluation. Specifically, it measures how well the contractor met the requirements in terms of schedule, cost, and performance, as well as the terms and

conditions set forth in the contract. Contractor performance measures how well the contractor met the customers' expectations.

Hypothesis 7: There is a positive correlation between the fit/appropriateness of a source selection and contractor performance.

Hypothesis 8: There is a positive relationship between technical evaluation effectiveness and contractor performance.

d. Buyer Satisfaction

Customer satisfaction is important. According to the stakeholder theory, customers are the lifeblood of any organization (firm). Ensuring their satisfaction is critical to an organization's existence. The role of management within the organization is to ensure that the appreciable measures (e.g., customer service, highest quality products and services, and professionalism) are in place to ensure its customers keep coming back. For the contracting activity, the customer cannot set up or bind the government into contracts. The customer does not know the intricate procurement system of regulations and statutes. It is important for the agency to act on the customer's behalf. The agency must award contracts to suppliers (contractors) to provide a product or service to the customer. The suppliers chosen to provide or perform the service play an important role in customer satisfaction. The agency's commitment to the customer is displayed by responsiveness and resolution of customer concerns, problems, and complaints (Anderson, Swaminathan, & Mehta, 2013).

If the contracting officer (employee) has a concern about the customer's concerns, problems, and complaints, the contracting officer could change the acquisition plan to using trade-off or LPTA. The contracting officer could use LPTA instead of trade-off to keep a certain contractor in the competition to satisfy the customer. If the contracting officer is concerned about a protest, he or she could use LPTA.

The use of LPTA could potentially cause degradation in the customer's satisfaction. As companies reduce their costs to meet the terms and conditions of the contract, they cut key elements (e.g., people, level of service, material quality) of their productions. Cutting key elements decreases the performance and increases the cost and the amount of time. This degradation causes lower buyer satisfaction, as the customer must add more funds and time to the procurement while losing out on the original performance parameters set.

Hypothesis 9: There is a direct positive relationship between contractor's performance based on the source selection method used and the buyer's satisfaction.

e. PALT Actual

PALT is one metric that can increase if fear causes members of the source selection team to re-evaluate themselves. Naturally, as the concern over a protest grows, acquisition teams take added measures to prevent them. This will increase the iterations of documents that are generated and will ultimately prolong the review process. These added measures consume time during the source selection. Therefore, it is hypothesized that:

Hypothesis 10: There is a direct positive relationship between fear of protest and the actual PALT.

f. Resources

The composition of the SST is customized for each acquisition. The structure of the SST depends on the nature of the acquisition and the agency's regulations (Rumbaugh, 2010, p. 52). The source selection council (SSC) is another group that is added to the SST. The SSC function is to be advisory and an independent reviewer of high dollar or high visible acquisitions. When the SSC is not formed, other government advisors (e.g., legal) can function and provide their expertise (Office of the Under Secretary of Defense of Acquisition, Technology, and Logistics (OUSD [AT&L)), 2011, p. 7)

The typical source selection board includes no more than three to five members. However, the more significant procurement is to an agency, the larger the board is likely to be (Edwards, 2006, p. 69). To avoid a protest, an agency might add more members to the source selection boards.

Hypothesis 11: There is a direct positive relationship between fear of protest and the number of Human Resources assigned to the source selection team.

g. Transaction Costs

The DOD has experienced a significant increase in the number of competitive source selection decisions that are protested by industry. Protests are extremely detrimental to the warfighter and the taxpayer. These protest actions consume vast amounts of the time of acquisition, legal, and requirements team members, and delay program initiation and the delivery of capability (Schwartz et al., 2009, p. 13).

The transaction cost focuses on the organization of transactions that occur whenever a good or service is transferred from a provider to a user across a technologically separable interface. When transactions occur within an organization, the transaction costs can include managing and monitoring personnel and procuring inputs and capital equipment (Pint & Baldwin, 1997).

In this research, the transaction costs reflect the monetary cost of resources devoted to preventing a protest. This includes the different acquisition professions (contracting officer, contracting specialist, technical evaluator, legal, cost/price analyst, past performance team, program manager, Small Business Association [SBA] representative, and consultant), their labor rates, and the amount of their time. This transaction cost could be considered an opportunity cost of resources not devoted to other requirements and contracts in the queue.

Hypothesis 12: There is a direct positive relationship between fear of protest and transaction costs.

h. Number of Awarded Contracts

Multiple award contracts (MACs) are solicitations that are broken into several contracts for different companies. This includes task orders and indefinite delivery/indefinite quantity (IDIQ). A contracting officer might use MACs because they offer many advantages. According to the Office of Management and Budget,

> In order for agencies to take continuous advantage of the benefits of competition after contract award, Federal Acquisition Streamlining Act (FASA) provides that agencies may make multiple awards of task and delivery order contracts for the same or similar supplies or services (and from the same solicitation) to two or more sources. The use of multiple award contracts allows agencies to take continuous advantage of the competitive forces of the commercial marketplace which will result in lower prices, better quality, and reduced time from requirements identification to award, and improved contractor performance in satisfying customer requirements. (Office of Federal Procurement Policy [OFPP], 1997)

One of the other advantages of using MACs is to reduce the likelihood of a protest by awarding contracts to multiple companies.

Under FAR 16.505 10 (i) (a), no protest under FAR 33.1 is authorized in connection with the issuance or proposed issuance of an order under a task-order contract or delivery-order contract, except for "a protest on the ground that the order increases the scope, period, maximum value of the contract."

For the Navy's LCS program, the Navy wanted to award two contracts to two competing shipyards. This increased competition, lowered the cost, and prevented a protest. A December 13, 2010 press report on the LCS program stated, "One high-level Navy source recently said that without the dual-ship approach, 'there is 100 percent chance of a protest'" (O'Rourke, 2014, p. 68). As a result of this fear, the Navy changed its acquisition plan from a down select to a dual-award strategy.

Hypothesis 13: The higher the level of fear of protest, the greater of the number of awarded contracts.

i. Contracting Officer Authority

In some agencies, legal employees are considered advisors. According to Rumbaugh (2010, p. 270), advisors are subject matter experts who provide technical expertise and advice to the evaluators. Advisors may read the proposal, document their findings, and make recommendations to the evaluators. Advisors offer specific input in their area of expertise and may only be asked to evaluate a limited subset of evaluation factors.

As advisors, legal is part of the acquisition process. Legal is invited to the technical evaluations. In some agencies, it is an internal policy to have legal review proposals before they go forward. If there is a protest, legal must defend the agency's actions against the GAO and/or the protester's legal team. Legal must devote hours and resources away from other requirements. In many cases, its focus is on the protest. Legal understands the importance of the protest and the effects it has on the agency and the customer. Not only is legal's time devoted to the protest, but the contracting officers' and evaluators' time is also a factor when justifying its actions to the Government Affairs Office, protester's legal time, or the parent agency. With a lot of legal consequences, legal is overly conservative of preventing a protest. Since legal plays an important role in the acquisition process, Contracting officers rely heavily on its opinion and recommendations. This statement is supported by the feedback received during our interviews. According to one interviewee, "They [legal] are only advisory, but we rely very heavily on their opinion." Another interviewee shared the same concern:

> Part of legal's opinion may sometimes tend to be narrow-minded. Sometimes they tend to not consider the real world. How should I put that? Hmm. They might see things their way and not really how it works. We almost never move forward unless they [legal] give us their okay. It would be very, very hard—very challenging.

Contracting officers are the only ones that can legally bind the government in a contract. They have the final authority. Legal, in its advisory role, influences the contracting officer's authority through its opinion and recommendations.

Hypothesis 14: There is a direct negative relationship between fear of protest and the contracting officer's authority.

F. CONCLUSION

A total of 14 relationships were hypothesized based on the relevant literature. A depiction of the conceptual model can be found in Figure 1. A summary of the hypothesis can be found in Table 2. Chapter III presents the research and statistical methods that are employed, along with the measurement scales that are used to measure the relationships in the conceptual model.

Table 2. Summary Table of Hypothesis

Notation	Hypothesis
H1	Insufficient PALT has a direct positive relationship on the level of fear of protest.
H2	The greater a contracting officer's competence level, the lower the level of fear of protest.
H3	The level of requirement criticality/importance has a positive impact on the level of fear of protest.
H4	As protest risk increases, the level of fear of protest increases.
H5	The level of fear of protest has a negative effect on the technical evaluation effectiveness.
H6	There is a direct positive relationship between fear of protest and the Source Selection method fit/ appropriateness.
H7	There is a positive correlation between the fit/appropriateness of a source selection and contractor performance.
H8	There is a positive relationship between technical evaluation effectiveness and contractor performance.
H9	There is a direct positive relationship between contractor's performance based on the source selection method used and the Buyer's satisfaction.
H10	There is a direct positive relationship between fear of protest and the actual PALT.
H11	There is a direct positive relationship between fear of protest and the number of Human Resources assigned to the source selection team.
H12	There is a direct positive relationship between fear of protest and transaction costs.
H13	The higher the level of fear of protest, the greater of the number of awarded contracts.
H14	There is a direct negative relationship between fear of protest and the contracting officer's authority.

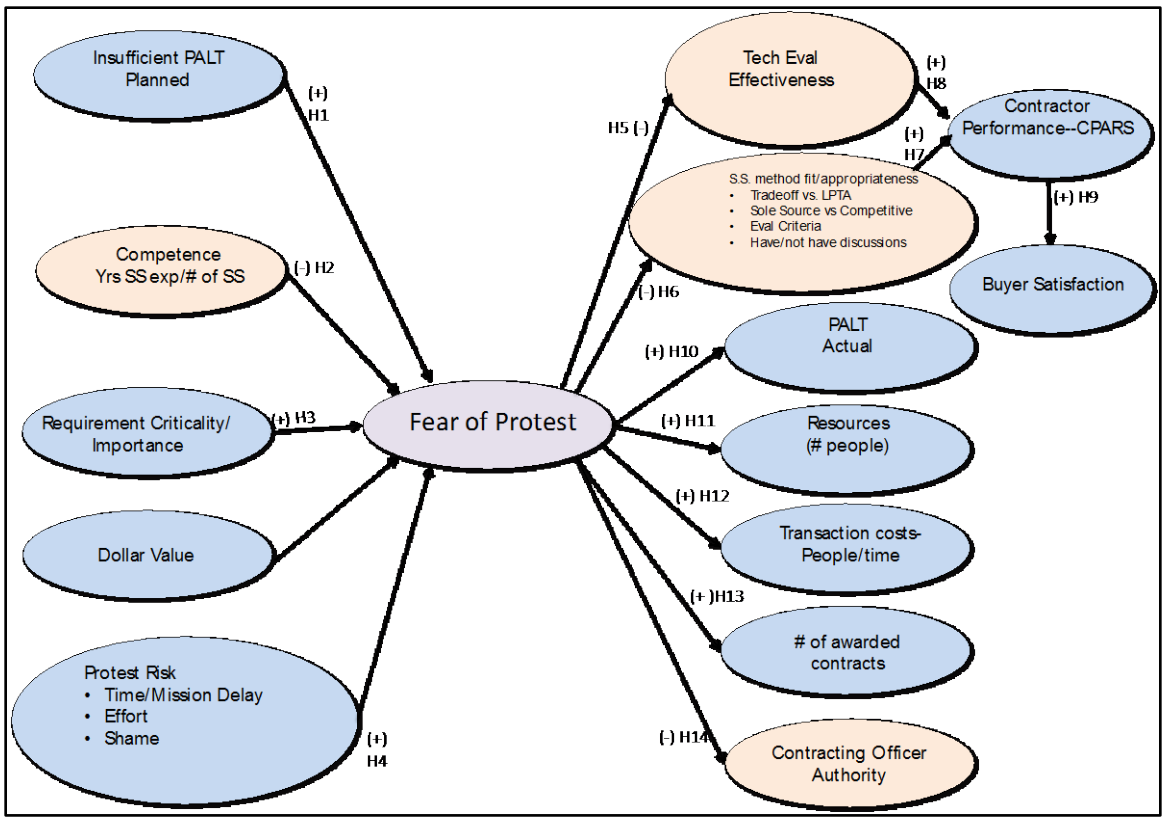

Figure 1. Conceptual Model

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III. METHODOLOGY

A. INTRODUCTION

This chapter begins by discussing the interview construction and rationalizing the sample by discussing the method used to sample the population of contracting professionals. Next, the survey design and construct measurements are presented. Finally, the design and validation of the conceptual model for analyzing the antecedents and consequences of protest fear along with the statistical methodology for analyzing the relationships of the model are discussed.

B. INTERVIEWS

The next step in the validation process was to interview subject matter experts. The purpose was to validate the hypothesized model and to develop and validate the measures of constructs that did not have existing measurement scales. As such, the interviews provided content validity and construct validity. Navy contracting officers at the Commander Naval Space and Warfare Headquarters and at the Navy Fleet Logistics Center San Diego were chosen for interviews because of (a) the convenience of travel, (b) a willingness to support the research, and (c) the availability of a wide variety of contract types and contracted goods and services for wide generalizability (e.g., external validity). A series of questions (see Table 3) was asked to each participant. All responses were unrehearsed and not coerced.

Table 3. Interview Questions

	Interview question
1	How important to you is avoiding a bid protest?
2	Why is avoiding a bid protest important?
3	What are the negative consequences of a bid protest?
4	Are there any positive outcomes of receiving a bid protest?
5	Are some members of the source selection team more fixated on avoiding a bid protest than others? Who? Why?
6	If there were no ability to protest, would you have done anything differently in the past on a source selection (e.g., acquisition strategy elements)?
7	Do you believe that source selection teams alter acquisition strategies in order to avoid bid protests? What are the outcomes of these alterations?
8	What extraordinary measures have you observed or heard of that source selection teams have taken to avoid a bid protest?

A total of 18 individuals were interviewed over two days between the two commands. Demographics of each respondent can be found in Table 4. Each interview was recorded and transcribed. The average interview lasted 26 minutes. The interviews resulted in eight hours and three minutes of recordings, which transcribed into 229 pages.

Interviewees were given a copy of the conceptual model during the interview and asked whether they agreed with the independent variables being used. They were also asked if they would add any or take any away. One of the respondents, a supervisory contracting officer with 29 years of experience, stated, “Okay. This is good. I don’t see anything that I need to add.” Another contracting officer with 18 years of experience who had recently dealt with a pre-award protest stated, “I think this is a great research that you are doing because this is a bigger and bigger issue. I think you are right on.” Other statements that validated the model were, “I think I like the model. For the most part it says everything.”

Table 4. Interview Demographics

Rank/Grade	Gender	Duty Title	Yrs. Exp	# Source Sel. (within 2 yrs)	# Bid Protest (within 2 yrs)	Contract Types
GS-14	F	Supv. Contracting officer	29	12	0	CPFF, T&M, FFP
GS-13	M	Contracting officer	26	9	3	CPFF, T&M, FFP
GS-13	M	Contracting officer	18	6	1	Various
GS-14	M	Supv. Contracting officer	36	1	0	Various
GS-13	F	Contracting officer	6	4	0	CPFF, T&M, FFP
GS-14	F	Supv. Contracting officer	32	3	0	Various
GS-12	M	Contract Specialist	4	0	0	Various
GS-13	M	Contracting officer	6	6	0	Various
GS-12	M	Contract Specialist	7	4	2	FFP, CPFF, CPAF
GS 13	M	Contracting officer	21	1	0	FFP, Cost
GS 13	F	Contracting officer	30	4	0	FFP, Cost
GS 13	M	Contracting officer	22	5	0	CPFF; CPIF; FFP
GS 13	F	Contracting officer	15	5	1	CPFF; CPAF
GS 13	M	Contracting officer	26	20	1	FFP; CPFF

C. POPULATION AND SAMPLE

After the interview testimonies confirmed the conceptual model, a survey to collect the quantitative data was developed. The population for this study consisted of only the continental United States (CONUS) and outside the continental United States (OCONUS) U.S. Navy civilian and military contracting. The research was limited to the Navy because of time and sponsorship constraints. The sample was constrained to contracting officers who had executed a FAR Part 15-based formal source selection with a dollar amount of greater than $150,000. The rationale was to remove contracting officers who primarily execute acquisitions below the simplified

acquisition threshold and who conduct non-competitive procurements. Several constraints existed for surveying this population. A list of e-mail addresses was generated using data extracted from the Federal Procurement Data System–Next Generation (FPDS–NG) database to encompass all transactions that fit the criteria previously stated. Because of the costs required to mail a sufficient quantity of surveys to contracting personnel and the resources required to manually input responses into a dataset, a web-based survey was deployed to each individual e-mail address generated from FPDS–NG data.

The unit of analysis for this survey was a source selection. Since nearly all bid protests stem from a protestable action (e.g., a proposal rating, rating justification, or basis of a trade-off analysis) associated with a source selection, this is the proper unit of analysis for the study. Respondents were instructed to answer the survey questions using their experience from their most recently completed FAR Part 15 source selection. The most recent source selection was required to serve as the basis of reference in order to prevent respondents' self-selection bias.

D. SURVEY DESIGN AND CONSTRUCT MEASUREMENT

There were 115 questions used to measure the 16 variables in the conceptual model. The interview informants reviewed the measures of new constructs and found their content to capture the full meaning of the constructs being measured. All scales measuring latent constructs used a Likert-type scale. Questions collecting continuous data, such as dollar value, planned PALT, actual PALT, iterations of source selection documents, and quantity of personnel assigned did not use Likert-type scales.

Fear of protest is a term used for this research to identify the level of apprehension a contracting professional has about receiving a bid protest. Since the fear of protest construct was substantiated during the literature review and through qualitative interviews, six questions were constructed to measure the level of fear of protest among the respondents to the survey, shown in Table 5. No previously-validated scales were available to measure the fear of protest. One variable from this construct was discarded as a result of factor analysis.

Table 5. Construct Measurement of Fear of Protest

Scale Item	Survey Question
FEAR[1]*	At some point during the development of the acquisition strategy or the source selection process, I worried about receiving a bid protest.
FEAR[2]*	I was concerned that the contract award would be protested.
FEAR[3]*	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[4]*#	Receiving a bid protest would have been among the worst things that could happen.
FEAR[5]**	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?
FEAR[6]**	During the development of the acquisition strategy and throughout proposal evaluation, to what extent was at least one other member of the source selection team concerned that an offeror might protest the contract award?

* anchors of *strongly agree* and *strongly disagree*
** anchors of *not at all concerned* and *extremely concerned*
 # item was discarded due to Exploratory Factor Analysis

The contracting officer authority construct described how empowered the contracting officer is to make final decisions during the source selection process. The contracting officer authority factor was validated through qualitative interviews. Six questions were constructed to measure the contracting officer's authority to make decisions, which are shown in table 6. There were no previously-validated scales available for this construct. The construct consisted of six questions using a seven-point Likert-type scale with anchors of *strongly agree* and *strongly disagree*. One variable from this construct was discarded as a result of factor analysis.

Table 6. Construct Measurement of Contracting Officer Authority

Scale Item	Survey Question
CO_AUTH[1]	I was empowered to make required decisions throughout the source selection.
CO_AUTH[2]	I was trusted that the decisions I made throughout the source selection would be appropriate.
CO_AUTH[3]	My management supported me on the decisions I made during the source selection.
CO_AUTH[4]	If I disagreed with an aspect of a legal opinion/review, I had the latitude to deviate from it.
CO_AUTH[5]#*	I had to change documents generated during the source selection to correspond with reviewers.
CO_AUTH[6]*	I might as well not have a warrant since my decisions were overridden by reviewers.

item was discarded due to Exploratory Factor Analysis
* item was reverse coded

The antecedent insufficient PALT was validated by qualitative interviews and vetting by contracting practitioners. Three questions, shown in Table 7, were constructed to measure the sense of urgency created by insufficient PALT planned in the milestones and allocated by the acquisition team and its managers to conduct the source selection. The scales were developed from a study on services sourcing performance (Muir, 2010). The variable consisted of three questions using a seven-point Likert-type scale with anchors of *strongly agree* and *strongly disagree*.

Table 7. Construct Measurement of Insufficient PALT Planned

Scale Item	Survey Question
PALT_P[1]*	The milestones for awarding this contract were too aggressive.
PALT_P[2]	I was not rushed to award this contract.
PALT_P[3]	I had sufficient time to get this contract awarded.

* item was reverse coded

The technical evaluation effectiveness construct was also validated by qualitative interviews. Six questions were constructed, shown in Table 8, to measure the technical evaluators' level of confidence associated with the quality of the technical evaluations of offerors' proposals. There were no previously-validated scales available for this factor. The variable consisted of six questions using a seven-point Likert-type scale with anchors of *strongly agree* and *strongly disagree*. Three variables from this construct were discarded as a result of factor analysis.

Table 8. Construct Measurement of Technical Evaluation Effectiveness

Scale Item	Survey Question
TEE[1]#*	At least once, a technical evaluator was required to change the wording of his or her technical evaluations.
TEE[2]*	At least one technical evaluator expressed concern about not being able to say what needs to be said in the technical evaluation.
TEE[3]*	At least one technical evaluator was concerned that the constraints imposed on his or her evaluations impeded the evaluator's ability to write a meaningful evaluation.
TEE[4]#*	The technical evaluators believed that the quality of their evaluations could not have been better.
TEE[5]#*	If there were no Federal Acquisition Regulations, no source selection policy, and no threat of a bid protest, the quality of the technical evaluations would have been the same.
TEE[6]*	Upon evaluation of proposals, at least one technical evaluator expressed a need to change at least one evaluation criterion or its definition.

item was discarded due to Exploratory Factor Analysis
* item was reverse coded

Requirement criticality/importance is the level of significance of a particular acquisition at the macro level. The requirement criticality/importance factor was validated by qualitative interviews. Table 9 shows the five questions that were used to measure the acquisition's importance with regard to the overall mission of the agency. The questions were formulated from studies conducted on procurements in business-to-business markets (Schoenherr & Mabert, 2011). The variable used a seven-point Likert-type scale with anchors of *strongly agree* and *strongly disagree*. Two variables from this construct were discarded as a result of factor analysis.

Table 9. Construct Measurement of Requirement Criticality/Importance

Scale Item	Survey Question
RCI[1]#	This requirement was important for the good operation of our customer's organization.
RCI[2]	This requirement supported a core competency of our customer's organization.
RCI[3]	Compared to other purchases for this customer, this requirement was important.
RCI[4]*	An unsuccessful outcome of the RFP would have had only minor consequences to our customer
RCI[5]#	As a portion of the customer's total annual spending amount, the dollar value of this requirement was high.
RCI[6]	As a portion of the customer's total annual spending amount, the dollar value of this requirement was high.

item was discarded due to Exploratory Factor Analysis
* item was reverse coded

Buyer satisfaction represents the level of contentment the agency has with the contractor's performance that won the source selection in question. The buyer satisfaction factor was validated by qualitative interviews. Table 10 shows the five questions that were constructed to measure the level of satisfaction that resulted from the source selection being surveyed. The scale was adapted from a study conducted on buyer-seller relationships in commercial markets (Cannon & Perreault, 1999). The variable consisted of five questions using a seven-point Likert-type scale with anchors of *strongly agree* and *strongly disagree*. One variable from this construct was discarded as a result of factor analysis.

Table 10. Construct of Buyer Satisfaction

Scale Item	Survey Question
BS[1]#*	Our customer regrets the decision to do business with this contractor.
BS[2]	Overall, our customer is very satisfied with this contractor.
BS[3]	Our customer is very pleased with what the contractor does for the customer.
BS[4]*	Our customer is not completely happy with this contractor.
BS[5]#	If we had to do it all over again, we would still choose to use this contractor.

item was discarded due to Exploratory Factor Analysis
* item was reverse coded

Contractor performance is the overall measure of the successful offeror's adherence to contract obligations. Vetting from industry practitioners validated the contractor performance construct. Table 11 shows the seven aspects of contract execution that were used to measure the level of contractor performance that resulted from the contracts awarded from the source selections for which respondents answered the survey questions. The scale was adapted from past marketing and operations management studies (Fawcett, Smith, & Cooper, 1997; Cannon, Achrol, & Gundlach, 2000; Prahinski & Benton, 2004). The variable consisted of five questions using a seven-point Likert-type scale with anchors of *needs improvement* and *superior performance*.

Table 11. Construct Measurement of Contractor Performance

Scale Item	Survey Question
CP[1]	Product/service quality per specifications
CP[2]	Delivery performance per specifications
CP[3]	Product/service consistently meets customer expectations
CP[4]	Responsiveness to requests for changes
CP[5]	Required service and/or technical support
CP[6]	Non-conformance rate
CP[7]	Overall performance

Vetting from industry practitioners validated the protest risk construct. Protest risk was an exploratory construct that consists of two parts since risk is comprised of the product of the magnitude of the consequences and the probability of occurrence. Table 12 shows the questions used to assess the desirability of each of five consequences and each of their associated probabilities of occurring. The five

consequences were validated by interview informants to be those most likely to occur and those most abhorred. Risk was calculated by multiplying the consequences' probability of occurrence by the desirability of the consequence. The result yielded an overall protest risk score. The construct consisted of five possible consequences using a Likert-type scale with anchors of *completely undesirable* and *completely desirable,* and then listed the same five consequences using a *probability of occurance* scale with anchors of 0 percent to 100 percent.

Table 12. Construct Measurement of Protest Risk

Scale Item	Survey Question
PR^1	Increased costs to settle a terminated contract(s).
PR^2	Time delay to the mission.
PR^3	Embarrassment/shame.
PR^4	Increase in workload to resolve the protest.
PR^5	Career repercussions for making a mistake or omission that caused a bid protest.

risk = probability of occurrence x magnitude of consequences

Source selection method appropriateness is the perceived extent that the chosen source selection method fits the requirement, the goals of the source selection, the commercial market, and the acquisition situation. The source selection method appropriateness factor is new. The factor was validated by qualitative interviews. The decision about the source selection method to be used is made very early on in the acquisition. The variable consisted of six questions using a seven-point Likert-type scale with anchors of *strongly disagree* and *strongly agree,* shown in Table 13.

Table 13. Source Selection Method Appropriateness

Scale Item	Survey Question
SSMA[1]	Our acquisition strategy was the best means to source our requirement.
SSMA[2]	Our acquisition strategy was the best means to achieve our acquisition objectives.
SSMA[3]	It would have been difficult to achieve our goals without the use of our acquisition strategy.
SSMA[4]	The source selection method we used (e.g.., LPTA, full-trade-off, or PPT) was the most appropriate for this requirement.
SSMA[5]	Our acquisition strategy ensured we selected the best offeror.
SSMA[6]	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.).

The source selection method fit variable is an exploratory concept that had not been previously tested. Answers to the questions in Table 14 were used to explore various aspects of the overall source selection. This is a more objective measure of the same construct in Table 13, source selection method appropriateness. Source selection method fit measures the difference in time and resources used, method used, and satisfaction with discussions. Measures for each question are listed at the bottom of Table 14.

Table 14. Source Selection Method Fit

Scale Item	Survey Question
SSMF[1]*	During acquisition planning, how many days were planned in the milestones from receipt of a complete requirements package to award of the contract(s)?
SSMF[2]*	Number of actual days from receipt of a complete requirements package to award of the contract:
SSMF[3]*	Number of people on the source selection team including all advisors, reviewers, full-time participants, and part-time participants:
SSMF[4]*	Absent a risk of a bid protest, in your opinion, how many people ideally should have been on the source selection team:
SSMF[5]**	What source selection method was used? (Select one.)
SSMF[6]***	Rate the appropriateness of each source selection method for the requirement on a scale of 1 to 7, where 1 represents "completely inappropriate" and 7 represents "completely appropriate." LPTA (Lowest Price Technically Acceptable)
SSMF[7]***	PPT (Price-Past Performance Trade-off)
SSMF[8]***	Full Trade-off
SSMF[9]****	Rate your 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.
SSMF[10]*****	Hypothetically, if there was no ability to protest, rate the extent that discussions with offerors would have differed.
SSMF[11]******	Did the RFP advise offerors that the government intended to award without discussions?
SSMF[12]******	Did you conduct discussions?
SSMF[13]***	Considering the risk, criticality, dollar value, contribution to the mission, and complexity, rate the appropriateness of awarding a contract without conducting discussions.
SSMF[14]******	Did offerors make oral presentations?
SSMF[15]***	Considering the risk, criticality, dollar value, contribution to the mission, and complexity, rate the appropriateness of not utilizing oral presentations.

* Measured by text input into a field
** Used a drop box with appropriate choices
*** Likert-type scale with anchors of *completely appropriate* and *completely inappropriate*
**** Likert-type scale with anchors of *completely satisfied* and *completely dissatisfied*
***** Likert-type scale with anchors of *no difference* and *substantial difference*
****** Choices of *Yes* or *No*

The number of awarded contracts variable was validated by qualitative interviews. The measure was used to analyze the difference between the number of contract awards that were planned and the number of contracts actually awarded. These were objective measures along a continuous scale. The questions used are shown in Table 15.

Table 15. Measurement of Number of Awarded Contracts

Scale Item	Survey Question
AC^1	According to your acquisition planning, how many contracts were originally intended to be awarded?
AC^2	How many contracts were actually awarded?

The transaction costs variable is an objective measure that was used. This measure consisted of 25 items, shown in Table 16 and was validated through qualitative interviews and discussions with other industry practitioners. The first 10 items gathered the number of iterations of common source selection documents. They were represented by the abbreviation *TCI*. The last 15 attempted to quantify in dollars the amount of time spent on the source selection by each member of the team, and were represented by the abbreviation *TCP*. The roles were assigned using information from the DOD source selection procedures (OUSD [AT&L], 2011). There was no previously validated scale to measure these transaction costs. Text boxes to gather data were used to answer these questions.

Table 16. Construct of Transaction Costs

Scale Item	Survey Question
TCI^1	During the source selection, how many iterations of each of the following documents were generated?
	Source selection decision document
TCI^2	Comparative assessment/proposal analysis report
TCI^3	Evaluation notices (sum of iterations for all ENs across all offerors)
TCI^4	Source selection plan
TCI^5	Debriefing scripts (sum of iterations for all scripts across all offerors)
TCI^6	Technical evaluations (sum of iterations for all evaluations across all offerors)
TCI^7	Past performance evaluations (sum of iterations for all evaluations across all offerors)
TCI^8	Cost/price analysis
TCI^9	Color/rating chart
TCI^{10}	Evaluation briefing charts for reviewers and SS
TCP^1	For the following roles, please provide the number of people within that role, their grade(s)/rank(s), and the fraction of 1 year's time. If no involvement, just skip to the next role. Contracting Officer
TCP^2	Contract specialists
TCP^3	Technical Evaluators
TCP^4	Cost/price analysts
TCP^5	Supervisors
TCP^6	Legal
TCP^7	Past performance team
TCP^8	Source selection advisory council/non-legal advisors
TCP^9	Source selection authority
TCP^{10}	Financial management
TCP^{11}	Program manager/requirements office
TCP^{12}	Small business representative
TCP^{13}	Contracted consultants/labor
TCP^{14}	Other (description)
TCP^{15}	Other (data field)

The competence factor was validated by qualitative interviews and discussions with industry practitioners as shown in Table 17.

Table 17. Construct Measurement of Contracting Officer Competence

Scale Item	Survey Question
C^1	How many total years of experience do you have in contracting?
C^2	In how many source selections have you participated throughout your career?

E. SURVEY PRE-TEST

Six industry practitioners, which consisted of graduate-level students and professors who specialize in DOD contracting tested the initial survey. Feedback received was used to refine questions and limit survey length. Responses supported the proposed research hypothesis, but in order to shorten the survey, one antecedent—risk tolerance— was removed.

Once constructed, the order of the survey questions was structured to reduce bias among scale items by mixing questions with like scales and scale anchors. The complete survey can be found in Appendix A. As required, the survey was reviewed and approved by the Navy Survey Office. An additional review was conducted through the Department of the Navy's Institutional Review Board to ensure the protection of human subjects.

F. RESEARCH DESIGN

This study attempts to answer the following questions via qualitative and quantitative methods:

- Does a fear of protest exist in the acquisition workforce?
- If so, what are the contributing factors?
- If so, what are the outcomes?

A conceptual model that included 16 variables was developed by the research team to identify those factors that contributed to protest fear and hypothesize what verifiable results could be observed. The model was then vetted by discussion with 22 current and previously-warranted contracting officers and three Air Force and Navy contracting unit leaders for content, or face, validity.

To precisely identify and measure the relationships shown in the conceptual model, quantitative analysis through hypothesis testing between each contributing and resulting variable and fear of protest was performed. The path diagram of the conceptual model (see Figure 1) contains 14 relationships that represent the 14 hypotheses. The relationships between variables are depicted using arrows; "the directionality of causal paths begins from a variable at the arrow's tail and ends at a variable about the arrow's point" (Muir, 2010, p. 38). These arrows contain a plus or

minus sign to reflect the expected direction of the relationship. The primary methods used to perform statistical analysis are simple and multiple linear regressions.

Linear regression tries to model the relationship between two variables by fitting a linear equation to data on the X- and Y-axis. “The case of one dependent and independent variable is called simple linear regression. For more than one explanatory variable, it is called multiple linear regression” (“Linear Regression,” 1998).

In linear regression, data is modeled “using linear predictor functions, and unknown model parameters are estimated from the data” (Stanton, 2001, p. 237). The result is known as a linear model. Most commonly, “linear regression refers to a model in which the conditional mean of Y given the value of X is an affine function of X” (Cohen, West, & Aiken, 2003, p. 42). The purpose of causal modeling is to predict or explain phenomenon. Causal models are “appropriate for domains in which many modeled events can be conceptualized as processes causing other events which in turn trigger other processes” (Lemmer, 1993, p. 143).

Multiple regression is a form of causal modeling that can be used to analyze the relationship between one dependent variable and several independent variables. The “flexibility and adaptability of multiple regression allow its use with almost any dependence relationship” (Hair, Black, Babin, & Anderson p. 166). Multiple regression can be made applicable to a wide range of problems because of this flexibility. Its application is appropriate for two types of research problems: prediction and explanation. Prediction deals with the magnitude that the independent variable can predict the value of the dependent variable. Explanation uses regression coefficients for the independent variables and “attempts to develop a substantive or theoretical reason for the effects of the independent variables” (Hair et al., p. 167).

The goal of this research is not to predict the level of the fear dependent variable, but to explain the significance of its relationships with the independent variables that are used. Multiple regression is the appropriate tool to answer the questions being asked because it can objectively asses the magnitude and character of the relationships of the conceptual model. When regression analysis is performed, it is assumed that there will be a linear association between the dependent and independent variables. With multiple regression, “transformations or additional variables are available to assess whether other types of relationships exist, particularly curvilinear relationships. This flexibility ensures that the researcher may examine the true nature of the relationship beyond the assumed linear relationship” (Hair et al., p. 168).

G. CONCLUSION

In this chapter, the qualitative interviews that occurred were discussed. Next, the population and sampling methods, followed by the survey design and construct measurement was discussed. Finally, the research design and statistical method used for the data analysis was discussed. In the next chapter, the results of the data collection and statistical analysis are presented.

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IV. RESULTS

A. INTRODUCTION

This chapter presents the results of the survey, hypothesis testing, and conceptual model. The data collection results are discussed first, followed by the sample demographics. The results of tests for normality, outliers, non-response bias, reliability, and validity are then discussed. Next, the results of the exploratory factor analysis (EFA) are performed in SPSS Statistics Version 22.0. The results of the regression analyses performed are then discussed. Finally, the conceptual model with all hypothesized relations is presented.

When analyzing the significance of the relationship between constructs, the path coefficient is used to measure strength. Alpha levels that are less than .05 are considered to have a strong relationship between dependent and independent variables.

B. DATA COLLECTION

Data was collected from a NPS-approved web-based survey tool, Lime survey. A survey invitation (Appendix B) was sent via e-mail to contracting officers who had executed a FAR Part 15-based formal source selections with a dollar value greater than or equal to $150,000 during FY2013. E-mail addresses were extracted from the FPDS–NG database. A memorandum of support from the Deputy, Assistant Secretary of the Navy (Acquisitions and Procurement) was referred to in the e-mail to notify the respondents of sponsorship (Appendix C). The survey was left active for 42 days, with three reminder invitations being sent during that time. The survey was sent to a population of 4,279 unique e-mail addresses. Of these unique addresses, 260 undeliverable responses were received, and 137 individuals replied stating that they had not participated in a FAR Part 15 Source Selection. As a result, the total population was reduced to 3,882. At the survey closure, there were 661 responses received, which yielded a 17.02 percent response rate. Of the responses received, 311 had to be deleted because of missing or invalid data, leaving 350 usable responses. The final response rate of usable responses is 9.01 percent.

While the response rate is low, it is not unlike that of other published business research. In a study focused on declining response rates in supply chain management research, Melnyk, Page, Wu, and Burns (2012) stated that “the issue of declining response rates is a growing concern” (p. 35). Their research showed a sharp decline starting in 2002, with a steady decline of one percent annually. Five top journals reported low end survey response rates ranging from three percent to eight percent. Survey length is thought to be a one of the key contributors to the decline. Melnyk et al. further stated that “for every additional question over 20, the

researcher can expect the response rate to fall by 0.12 percentage points. Consequently, the researcher can expect the response to fall by over seven percentage points in response to an 80 question survey." (Melnyk et al., 2012, p. 43) The summary descriptive statistics from the remaining 350 usable responses can be found in Table 18.

Table 18. Summary Statistics

Variable	Measure	N	Minimum	Maximum	Mean	Std. Deviation
Fear	FEAR1	350	1	7	4.37	1.919
	FEAR2	350	1	7	4.22	1.887
	FEAR3	350	1	7	4.41	1.959
	FEAR4	350	1	7	3.82	1.765
	FEAR5	350	1	7	3.33	1.666
	FEAR6	350	1	7	3.38	1.708
Contracting Officer Authority	CO_AUTH1	350	1	7	5.27	1.546
	CO_AUTH2	350	1	7	5.43	1.452
	CO_AUTH3	350	1	7	5.6	1.341
	CO_AUTH4	350	1	7	3.84	1.703
	CO_AUTH5	350	1	7	4.17	1.887
	CO_AUTH6	350	1	7	3.1	1.759
PALT Planned	PALT_P1	350	1	7	4.38	1.795
	PALT_P2	350	1	7	3.36	1.764
	PALT_P3	350	1	7	3.83	1.75
Technical Evaluation Effectiveness	TEE1	350	1	7	5.33	1.584
	TEE2	350	1	7	3.5	1.714
	TEE3	350	1	7	3.37	1.628
	TEE4	350	1	7	4.37	1.434
	TEE5	350	1	7	3.03	1.817
	TEE6	350	1	7	3.47	1.744
Requirement Criticality/Importance	RCI1	350	1	7	5.9	1.093
	RCI2	350	1	7	5.79	1.135
	RCI3	350	1	7	5.77	1.142
	RCI4	350	1	7	2.41	1.423
	RCI5	350	1	7	4.15	1.666
	RCI6	350	1	7	4.15	1.668
Buyer Satisfaction	BS1	350	1	7	2.44	1.359
	BS2	350	1	7	5.5	1.232
	BS3	350	1	7	5.46	1.176
	BS4	350	1	7	3.02	1.474
	BS5	350	1	7	5.61	1.225
Contractor Performance	CP1	350	1	7	4.69	1.372
	CP2	350	1	7	4.74	1.32
	CP3	350	1	7	4.74	1.32
	CP4	350	1	7	4.76	1.303
	CP5	350	1	7	4.75	1.261
	CP6	350	1	7	4.53	1.213
	CP7	350	1	7	4.88	1.223
Protest Risk	PR1	350	1	11	3.44	2.86
	PR2	350	1	11	2.53	2.294
	PR3	350	1	11	5.42	3.114
	PR4	350	1	10	3.51	2.87
	PR5	350	1	11	4.63	3.215
	PR1	350	0.00%	100.00%	48.17%	31.01%
	PR2	350	0%	100%	75.09%	28.25%
	PR3	350	0.00%	100.00%	36.09%	31.57%
	PR4	350	0%	100%	74.26%	28.55%
	PR5	350	0.00%	100.00%	33.23%	30.27%
Source Selection Method Appropriateness	SSMA1	350	1	7	5.51	1.315
	SSMA2	350	1	7	5.61	1.243
	SSMA3	350	1	7	5.17	1.532
	SSMA4	350	1	7	5.76	1.292
	SSMA5	350	1	7	5.52	1.339
	SSMA6	350	1	7	5.51	1.395
	SSMA7	350	0	1000000	3168.97	53702.779
	SSMA8	350	0	200	2.89	14.252
	SSMA9	350	0	150	3.04	13.574
Source Selection Method Fit	SSMF1	350	0	780	182.97	131.168
	SSMF2	350	0	3290	236.72	244.081
	SSMF3	350	0	138	8.96	10.052
	SSMF4	350	0	130	7.65	9.053
	SSMF5	350	1	3	2.12	0.931
	SSMF6	350	1	7	4.16	2.181
	SSMF7	350	1	7	3.82	1.776
	SSMF8	350	1	7	4.89	2.061
	SSMF9	350	1	7	3.28	1.718
	SSMF10	350	1	7	3.37	2.041
	SSMF13	350	1	7	4.2	2.113
	SSMF15	350	1	7	4.7	2.099
Actual Number of Contracts Awarded	AC1	350	0	60	2.24	4.879
	AC2	350	0	55	2.39	5.506

C. SAMPLE DEMOGRAPHICS

From the 350 usable responses, the average respondent had 13.6 years of federal contracting experience. There were 314 respondents who elected to identify their gender. Results were even with male respondents accounting for 50.64 percent and female respondents accounted for 49.36 percent. The majority of respondents represented had at least a bachelor's degree. Only 2.29 percent of respondents held a high school diploma or general equivalency diploma, 3.14 percent held an associate's degree, 38 percent held a bachelor's degree, 54 percent held a master's degree, and only 2.57 percent of respondents held a doctorate degree. As to be expected, respondents' Acquisition Professional Development Program (APDP) certification levels in contracting were skewed to higher levels. Typically, more experienced contracting professionals conduct FAR Part 15 source selections. Only 1.43 percent of the respondents held no APDP contracting certification, 2.86 percent held a Level I APDP certification, 37.43 percent held a Level II APDP certification, and 58.29 percent held a Level III APDP certification. Demographics for the education and certification levels of the respondents can be found in Table 19.

Table 19. Education and Certification Demographics

Education Level	% of Total	Certification Level	% of Total
High School Diploma of GED	2.29%	No Certification	1.43%
Associate's Degree	3.14%	Level I	2.86%
Bachelor's Degree	38.00%	Level II	37.43%
Master's Degree	54.00%	Level III	58.29%
Doctoral or professional degree	2.57%		

Respondents were asked to refer back to the most-recent completed source selection above $150,000 in which they had participated. The range of contract type and type of products/services are reported (see Table 21). Of the respondents, 60 percent reported the use of fixed-priced, 27 percent reported cost reimbursement, one percent reported Time and Materials, one percent reported labor-hour, nine percent reported hybrid, and two percent reported as *other*. The type of supply or service bought was also reported. Services were bought in 58 percent of the cases, construction made up 17 percent of the purchases, supplies or commodities made up 16 percent, weapons systems made up seven percent, and other capital

equipment made up three percent. Experience-related demographics information can be found in Table 20.

Table 20. Experience

Years of Experience	Total	Other Statistics	Total
Average of all respondents	13.12	Avg Number of Source Selections	18.31
Respondents with 5 or less years	110 (31.4%)	Avg Number of Protests experienced	1.96
Respondents with between 5 and 15 years	130 (37.1%)	Number (%) who had a protest sustained	54 (15.4%)
Respondents with greater than 15 years	120 (34.3%)		

Table 21. Contract Type and Item/Service Procured

Contract Type	% of Total	Supply or Service Purchased	% of Total
Fixed Price	60.00%	Services	58.00%
Cost Reimbursement	27.14%	Construction	16.86%
Time and Materials	1.14%	Supplies or Commodities	15.71%
Labor Hours	0.57%	Weapons System	6.57%
Hybrid	9.14%	Other Capital Equipment	2.86%
Other	2.00%		

D. ASSUMPTIONS

1. MISSING DATA

Out of 661, there were 311 responses discarded because of missing data, leaving a total of 350 usable responses. Of these responses, 36 did not include a properly reported gender answer; these respondents were not included in the gender demographics reporting. The Transaction Cost variable had multiple missing and inconsistent items of data since this was an onerous task for respondents to complete, and since it was an optional part of the survey. Additionally, the survey collected the pay grade and allocation of time via open text fields enabling inconsistent response formats. All reporting of this data includes only the complete responses with unambiguous data. Only 270 responses were able to be used for this analysis.

2. OUTLIERS

Outliers are classified as “a unique combination of characteristics identifiable as distinctly different from other observations” (Hair et al., p. 63). Outliers such as procedural error, extraordinary events, and extraordinary observations can arise for a variety of reasons. . Most of the questions contained in this survey were on a Likert-type scale where the ranges of responses were limited.

The presence of Univariate and Multivariate outliers was tested using SPSS version 22. To conduct the Univariate test, the score of 10 variables were converted to standardized values, or z-scores. Then, the standard value was evaluated against a benchmark in which potential outliers had the z-score of ±3.00 or higher (Muir, 2010, p. 56). The range of standard scores can be seen in Table 22. Five variables had cases that were above or below the threshold. Contracting officer authority had five cases that were outside of the threshold; Requirement Criticality or Importance had three cases that were outside of the threshold; Buyer Satisfaction had four cases that were outside of the threshold; Contractor Performance had three cases that were outside of the threshold; and Source Selection Method Appropriateness had seven cases that were outside of the threshold. Each case was examined for inconsistent responses. This examination did not lead to any responses being discarded.

Since multivariate detection involves several variables, the ability to measure the multidimensional position of each response relative to a common point is needed. The Mahalanobis Distance, or D^2, is a multivariate assessment of each observation across a set of variables (Hair et al., 2010). The same 10 variables were used to calculate the D^2 in SPSS. The critical value was 29.59 when 10 variables were used. Five cases exhibited a D^2 score higher than 29.59. Each case was examined for inconsistencies or incoherent responses. This examination also led to no responses being discarded. The Transaction Cost document iteration variable was also examined for incoherent responses. Twelve outlying responses were truncated to the highest reasonable score. “One alternative to transformation is truncation, wherein extreme scores are recorded to the lowest reasonable score” (Osborne & Overbay, 2004, p. 2). Reasonable scores were determined using the average number of iterations for each document. If, for example, a response indicated that the respondents experienced 99 iterations of a document, this was considered an unrealistic response. This response was then truncated to the average iteration number for the subject document.

Table 22. Univariate Range of Standard Scores

Variable	N	Minimum	Maximum
Zscore(FEAR)	350	-1.88982	1.96546
Zscore(CO_AUTH)	350	-3.45073	1.13423
Zscore(PALT_P)	350	-1.73510	2.04099
Zscore(TEE)	350	-1.75669	2.55294
Zscore(RCI)	350	-4.63729	1.18532
Zscore(BS)	350	-4.72418	4.14633
Zscore(CP)	350	-3.19421	1.94928
Zscore(SSMA)	350	-4.06658	1.34293

3. Normality

Normality is the most fundamental assumption in multivariate analysis and the benchmark for statistical methods. If the variation from the normal distribution is sufficiently large, all resulting statistical tests are invalid (Hair et al., 2010). The shape of normally distributed data is a symmetric bell-shaped curve. A distribution can be described by two basic measures, skewness and kurtosis. Skewness describes the lateral balance of the distribution. A positive skew describes a distribution that is shifted left, while a negative skew is shifted to the right. Kurtosis denotes the peak or flatness of a distribution when compared to a normal bell shaped distribution. Distributions with a higher, or more peaked, distribution are said to leptokurtic, while flatter distributions are said to be platykurtic (Hair et al., 2010).

Graphical analysis of a distribution using a histogram is the easiest test for normality. However, this method can be less reliable with small sample sizes. The normal probability plot is the most reliable way to do a visual assessment of normality. The normal probability plot compares the distribution of the actual data with distribution of a normal distribution. The normal distribution line is diagonal and the plotted data is compared to the normal distribution line. The Shapiro-Wilks test is another common normality test. This test is very powerful for smaller sample sizes (~50) but tends to be overly sensitive for samples of over 200 (Totton & White, 2011).

Table 22 displays the statistics for skewness produced using descriptive statistics function in SPSS. Values above and below zero denote non-normality (Hair et al., 2010). While skewness scores of zero represent a perfectly normal distribution, moderately non-normal distributions are represented by scores greater

than 2.0 (Curran, West, & Finch, 1995). Using a range for skewness of ±2.0, Table 22 showed nine variables that exceeded this threshold. In order to ensure the validity of statistical analysis, none of the variables were included in any constructs that were used to perform regression analysis.

Table 23 also displays statistics for kurtosis. Normal distributions display a standardized kurtosis value of 3.0, and rescaled distributions display a value of zero (Hair et al., 2010). Curran, West, and Finch (1995) suggested that rescaled kurtosis values greater than or equal to seven are indicative of moderate non-normality. The table shows nine variables that exceeded this threshold. In order to ensure the validity of statistical analysis, none of these variables were included in any constructs that were used to perform regression analysis.

Table 23. Normality Assessment

Variable	N	Skewness	Kurtosis	Variable	N	Skewness	Kurtosis	Variable	N	Skewness	Kurtosis
FEAR1	350	-.426	-1.113	CP1	350	-.503	.401	TCI3***	350	7.940	77.095
FEAR2	350	-.331	-1.155	CP2	350	-.334	.252	TCI4	350	1.098	4.757
FEAR3	350	-.418	-1.139	CP3	350	-.409	.145	TCI5	350	1.409	5.057
FEAR4	351	.133	-1.042	CP4	350	-.175	.054	TCI6***	350	2.853	13.738
FEAR5	350	.367	-.597	CP5	350	-.339	.487	TCI7***	350	2.737	14.525
FEAR6	350	.369	-.582	CP6	350	-.014	.572	TCI8***	350	2.758	16.025
				CP7	350	-.266	.095	TCI9	350	.584	.595
CO_AUTH1	350	-1.089	.571					TCI10	350	.050	.032
CO_AUTH2	350	-1.238	1.108	SSMA1	350	-1.205	1.163				
CO_AUTH3	350	-1.390	1.909	SSMA2	350	-1.395	2.221	D_VAL	350	-.084	-1.086
CO_AUTH4	350	-.089	-1.028	SSMA3	350	-.916	.039				
CO_AUTH5	47	-.096	-1.077	SSMA4	350	-1.649	2.729				
CO_AUTH6	350	-.506	-.723	SSMA5	350	-1.201	1.130				
				SSMA6	350	-1.368	1.529				
PALT P1	350	.105	-1.152	SSMA7***	350	18.447	343.056				
PALT P2	350	.303	-1.056	SSMA8***	350	9.659	115.466				
PALT P3	350	-.050	-1.201	SSMA9***	350	7.355	62.431				
TEE1	47	-1.668	2.098	SSMF1*	350	-.042	-.290				
TEE2	350	.357	-1.074	SSMF2*	350	1.027	5.386				
TEE3	350	.370	-.925	SSMF3*	350	1.446	4.539				
TEE4	350	.162	-.532	SSMF4*	350	1.726	6.957				
TEE5	350	-.601	-.830	SSMF5	50	-.290	-1.869				
TEE6	350	.322	-1.129	SSMF6	50	.100	-1.555				
				SSMF7	50	-.321	-.552				
RCI1	47	-1.336	2.326	SSMF8	50	-.748	-.466				
RCI2	350	-1.332	2.195	SSMF9	50	.378	-.750				
RCI3	350	-1.181	1.656	SSMF10	50	.181	-1.423				
RCI4	350	1.198	.730	SSMF13	50	-.342	-1.229				
				SSMF15	50	-.682	-.738				
BS1	47	.533	-1.084	C1	350	.757	-.696				
BS2	350	-1.270	1.604	C2**	350	1.434	6.889				
BS3	350	-1.153	1.502								
BS4	350	-.636	-.395	TCI*	350	.725	5.283				
BS5	47	-.492	-.990	TCI1***	350	4.720	41.777				
				TCI2***	350	3.668	38.750				

* Transformed using the square root

**Transformed using the LOG

***Items that could not be normalized, and were not included in any tests

4. Non-Response Bias

The extrapolation method was used to estimate bias. This is the most commonly used method when responses are received in "successive waves" (Armstrong & Overton, 1977). The responses were received in three successive waves after follow-up e-mail reminders were sent to non-respondents. Responses were grouped into waves according to the order of arrival. Late respondents are defined as

> those who respond in the last wave of respondents in successive follow-ups to a questionnaire. In order to ensure that the number of late respondents is large enough to be meaningful practically and statistically, it is recommended that the minimum number of late respondents be 30. (Linder, 2001 p. 52)

If the tests performed on this method does

> not produce sufficient statistical evidence to reject the null hypotheses that the means are equal then it is not unreasonable to assert that the unobserved group of non-respondents has similar characteristics to those of the survey respondents and that non-respondents are missing at random. (Muir, 2010, p. 60)

Based on the completion date of the survey, respondents were grouped into three categories. Group one (n = 113) represents those that responded within the first two days of the survey. Group two (n = 136) represents those that responded after the second follow up e-mail was sent, and Group three (n = 101) represents those that responded after the final follow up e-mail was sent. Multiple analysis of variance (MANOVA) was then conducted on nine latent variables to test the difference between means by early, middle, and late responders. Each individual non-response hypothesis is listed in Table 24.

Table 24. Non-Response Bias Hypothesis

Variable	Hypothesis
Fear	$H_0 = \mu_{\text{Fear1}} = \mu_{\text{Fear2}} = \mu_{\text{Fear3}}$
Contracting Officer Authority	$H_0 = \mu_{\text{CO Auth1}} = \mu_{\text{CO Auth2}} = \mu_{\text{CO Auth3}}$
Planned PALT	$H_0 = \mu_{\text{Planned PALT1}} = \mu_{\text{Planned PALT2}} = \mu_{\text{Planned PALT3}}$
Quality of Evaluation Factors	$H_0 = \mu_{\text{TEE1}} = \mu_{\text{TEE2}} = \mu_{\text{TEE3}}$
Requirement Criticality/Importance	$H_0 = \mu_{\text{RCI1}} = \mu_{\text{RCI2}} = \mu_{\text{RCI3}}$
Buyer Satisfaction	$H_0 = \mu_{\text{BS1}} = \mu_{\text{BS2}} = \mu_{\text{BS3}}$
Contractor Performance	$H_0 = \mu_{\text{Ctr Perf1}} = \mu_{\text{Ctr Perf2}} = \mu_{\text{Ctr Perf3}}$
Source Sel. Method Appropriateness	$H_0 = \mu_{\text{SSMA1}} = \mu_{\text{SSMA2}} = \mu_{\text{SSMA3}}$
Protest Risk	$H_0 = \mu_{\text{Protest Risk1}} = \mu_{\text{Protest Risk2}} = \mu_{\text{Protest Risk3}}$

Levene's test was calculated for each variable. The results are listed in Table 25. Since no statistic was significant at α = 0.05, then the null hypotheses cannot be rejected. Hence, there is little evidence that the variances are not equal, and homogeneity of variances can be assumed for all nine variables. Results of the univariate F-tests are shown in Table 26. An examination of the significance of the F-test statistics reveals that none are significant at a level of 0.05. As a result, there is no statistical evidence to reject the null hypothesis that group averages are equal in the nine variables, and it can be assumed that no bias exists between survey responders and survey non-responders in these cases (Armstrong & Overton, 1977).

Table 25. Levene's Test Results

Variable	Levene Statistic	df1	df2	Sig.
FEAR	.526	2	347	.591
CO_AUTH	.014	2	347	.986
PALT_P	1.777	2	347	.171
TEE	.204	2	347	.815
RCI	2.060	2	347	.129
BS	.686	2	347	.504
CP	.279	2	347	.757
SSMA	.741	2	347	.477
PR	2.526	2	347	.081

Table 26. Univariate F-Tests for Non-Response Bias

Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
FEAR	150.652[a]	2	75.326	1.246	.289
CO_AUTH	3.320[b]	2	1.660	.241	.786
PALT_P	75.540[c]	2	37.770	1.873	.155
TEE	2.104[d]	2	1.052	.060	.942
RCI	2.474[e]	2	1.237	.290	.748
BS	6.383[f]	2	3.192	1.117	.328
CP	269.811[g]	2	134.906	2.035	.132
SSMA	4.758[h]	2	2.379	.053	.948
PR	4.769[i]	2	2.384	.406	.667
C1	198.387[j]	2	99.193	.957	.385

In summary, nine variables were tested for the presence of non-response bias using the extrapolation method and multivariate analysis of variance. The results of testing did not provide statistical evidence to reject the null hypotheses that the means of the first, second, and third wave respondents' variables were equal. It can be assumed that non-respondents missing from the sample are random and that further analysis will not be biased because of non-respondents (Muir, 2010, p. 60).

E. SAMPLE SIZE

To ensure a valid measure fit of relationships, reduce any sample errors, and reduce the detrimental effects of non-normality, most researchers suggest using a sample size of 200 (Hair et al., 2010). However, it was also suggested that a minimum sample size of 100 could be used (Smith & Langfield-Smith, 2004). The effects of the sample size can be observed most in the statistical power of significance testing, and more importantly in the generalizability of the results.

According to Hair et al. (2010), sample size must have the following for a factor analysis design:

- The sample must have more observations than variables.
- The minimum absolute sample size should be 50 observations.
- Researchers should strive to maximize the number of observations per variable, with a desired ratio of 5 observations per variable.

As a general rule, the ratio of observations to independent variables should never be below 5:1. The desired amount would be a ratio of 15 to 20:1. If this ratio can be achieved, the results should be generalizable. This study contains 15 variables with 350 observations, which yields a ratio of 23.33:1. This ratio more than satisfies the referenced generalizability guidelines.

F. EXPLORATORY FACTOR ANALYSIS

As a preliminary step to establishing construct validity, scales were purified using exploratory factor analysis in SPSS Version 22. The factor loadings matrix produced is presented in Table 27. Factor analysis is a technique whose primary purpose is to define the underlying structure among variables. It is primarily used to analyze the structure of the correlations among a large number of variables by identifying sets of variables that have high influence on each other, known as factors (Hair et al., 2010).

Factor loading is the correlation of a variable and the factor, while the squared loading is the amount of the variable's total variance accounted for by the factor (Hair et al., 2010). When assessing the significance of factor loading, the first guideline is to do a preliminary examination of the factor loadings. The general rules for practical significance are:

- factor loadings ranging from ± .30 to ±.40 are the minimal level for interpretation of structure,
- factor loading ± .50 are considered practically significant, and
- factor loadings exceeding .70 are indicative of well-defined structure.

Interpretation of the factor matrix starts with the first variable of the first factor and moved horizontally from left to right. The goal is to identify the highest loading of that factor. This is done for each variable until all have been examined. Variables with insignificant loadings are then discarded. When a variable is found to have more than one significant loading, it is called a cross loading variable. Cross-loaded variables should be minimized if possible. Once all significant loadings have been identified, reassessment is done, removing insignificant and highly cross-loaded variable.

Nine variables were discarded because of insignificant loadings or high cross loadings. Four of the nine items were from established scales. All other variables retained displayed significance factors greater than the generally accepted threshold of .5. Only two items in the contracting officer authority construct contained significance loadings of less than .6. Five items displayed cross-loadings below the 0.300 limit recommended by Hair et al. (2010), but were maintained for summation.

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Table 27. Factor Loadings

	Component							
	1	2	3	4	5	6	7	8
FEAR1		.854						
FEAR2		.885						
FEAR3		.837						
FEAR5		.863						
FEAR6		.786						
COAUTH1					.862			
COAUTH2					.907			
COAUTH3					.819			
COAUTH4					.571			.232
COAUTH6					.586		-.213	
PALTP1						.792		
PALTP2						.827		
PALTP3						.877		
TEE2							.889	
TEE3							.892	
TEE6							.609	
RCI2				-.906				
RCI3				-.901				
RCI4				-.831				
CP1	.910							
CP2	.928							
CP3	.877							
CP4	.828							
CP5	.896							
CP6	.807							
CP7	.886							
SSMA1			.866					
SSMA2			.837					
SSMA3			.764					
SSMA4			.733					
SSMA5			.762					
SSMA6			.805					
BS3	.264							.734
BS4	.214							.662
BS2	.223							.750

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Summated scales combine several like variables into a single composite measure. This is done by combining the variables that are highly loaded on a factor. Summated scales have two specific benefits: They provide a means of overcoming to some extent the measurement error inherent in all measured variables and its ability to represent multiple aspects of a concept in a single measure (Hair et al., 2010). Descriptions for the summated scales can be seen in Table 28.

Table 28. Construct Descriptives

Summated Construct	N	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
FEAR	350	5	35	19.71	7.782	-.107	-.798
Contracting Officer Authority (CO_AUTH)	350	5	35	25.05	6.021	-.820	.447
PALT Planned (PALT_P)	350	3	20	10.81	4.502	-.092	-.921
Tech Eval Effectiveness (TEE)	350	3	21	10.34	4.177	.315	-.641
Requirement Criticality (RCI)	350	4	21	17.15	3.008	-.847	.856
Buyer Satisfaction (BS)	350	6	21	13.99	1.691	-.483	2.861
Contractor Performance (CP)	350	7	49	33.08	8.166	-.201	.282
Source Sel. Method Appropriateness (SSMA)	350	6	42	33.06	6.655	-1.174	1.585

Reliability is also a consideration in assessing the degree of consistency between multiple measures of a variable (Hair et al., 2010). Reliability is a necessary, but not sufficient, aspect of construct validity. One measure of construct reliability is the Cronbach's Alpha, which is also known as the reliability coefficient. The most widely used lower limit for Cronbach's Alpha is .70, although .60 may be acceptable in exploratory research (Nunnally, 1978). Table 29 shows the reliability coefficients for summated scales resulting from exploratory factor analysis.

Table 29. Cronbach's Alpha Scores

Construct	Cronbach's Alpha
FEAR	.904
CO_AUTH	.826
PALT_P	.805
TEE	.758
RCI	.856
BS	.880
CP	.963
SSMA	.901

G. HYPOTHESIZED MODELS

The final step of analysis was the regression analysis of the hypothesized regression models in SPSS version 22. Three methods of regression were used to analyze various hypothesized relationships between constructs. Multiple regression was used to measure the left side of the model, which analyzed the factors that contributed to protest fear. Simple linear and logistic regressions were performed on the right side of the model to measure the resultant effects of protest fear.

The model summary of each regression featuring the R^2 and adjusted R^2 values was analyzed to assess the total variation explained in the dependent variable by the independent variable(s). The significance value in the Analysis of Variation (ANOVA) table was then examined to determine the overall validity of the model. To test the validity of the model, the following hypotheses are assumed:

- $H_0: \beta_1 = \beta_2 = \cdots = \beta_k = 0$

- H_1: At least one β_i is not equal to 0

If the null hypothesis is true, none of the independent variable is linearly related to the dependent variable, and the model is invalid or not statistically significant. A minimum of one β_1 must be not equal to 0 for the model to have validity. The significance test in the ANOVA table combines multiple *t*-tests into a single test (Keller, 2008).

The Coefficients table is the last part of the regression analysis. The Unstandardized Coefficients (β) describe the relationship between each independent variable and the dependent variable. The significance value for each independent variable was then analyzed to determine statistical significance of each independent variable. All tests used an alpha (α) value of 0.05, meaning that any significance value greater than α was deemed not significant. Alpha values between 0.05 and 0.10 were considered marginally significant.

1. Antecedents of Fear Results

Multiple regression analysis was performed on the summated constructs that measured the relationships identified in the left side of the model. A visual depiction of the model is shown in Figure 2. The model used Planned PALT (PALT_P), Dollar Value (D_VAL), Competency (C1 and C2), Requirement Criticality/Importance (RCI), and Protest Risk (PR) as independent variables measuring the variance in the dependent variable Fear (FEAR).

The statistical significance of the model was then examined in the ANOVA table. The significance of the model was reported at .000 using an α value of 0.05. Since the significance is less than α, we can reject the null hypothesis that there is no linear relationship between FEAR and the independent variables in the model. The ANOVA table is shown in Table 31.

The Model Summary table for this model can be seen in Table 30. The Correlation Coefficient (R) was .361. The Coefficient of Determination (R^2) was .131 with an adjusted R^2 of .115. The R^2 value means that 13.1 percent of the variation in the dependent variable is explained by the independent variables. The proportion left unexplained, which is called the coefficient of alienation, is .869. Sirkin (2006, p. 474) noted that there are "many real world factors that mitigate linearity in social sciences. It would be rare indeed to see coefficients of determination approaching 1.0 (or even .9 or.8) in social or behavioral research." He then added that "R^2 is a useful concept in statistics, it is less useful in the real world of data analysis in determining what is or is not a "good" linear relationship. Thus statistical significance is often used to demonstrate "good" relationships" (Sirken, 2006, p. 457). While the R^2 values are high enough to substantiate this model, the model also suggests that there are some unobserved factors that may explain more of the variance in the FEAR of protest

variable.

Finally, the Coefficients Table was examined for the β values and significance of each independent variable. Five out of six independent variables had significance values less than .05, with the variable Years of Experience having a significance value of .379. PALT Planned had a β value of -.259 and a significance of .004. This shows that as PALT is increased, the level of FEAR decreases by .259 (on a seven-point scale) assuming all other variables remain constant. Dollar Value had a β value of .721 with a significance value of .003. This shows that as Dollar Value increases by one unit, FEAR also increases by .721 (on a seven-point scale) assuming all other variables remain constant. It is important to note that the Dollar Value construct does not measure the actual dollar value of the acquisition. The actual dollar values were not normally distributed and therefore inappropriate for regression analysis. Requirement Criticality had a β value of .431 with a significance value of .002. This shows that as Requirement Criticality increases by one unit, FEAR also increases by .431 (on a seven-point scale) assuming all other variables remain constant. Protest Risk had a β value of .374 with a significance value of .029. This shows that as Protest Risk increases by one unit, FEAR also increases by .374 (on a seven-point scale) assuming all other variables remain constant. Years of Experience had a β value of .037 but was insignificant. The number of Source Selections had a β value of -.267 with a significance value of .011. This shows that as the Number of Source Selections increases by one unit, FEAR decreases by .267 (on a seven-point scale) assuming all other variables remain constant. Results of this test can be found in Table 32. A visual depiction of all relationships is shown in Figure 2.

Table 30. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.361[a]	.131	.115	7.319

a. Predictors: (Constant), Number of Source Selections, Protest Risk, Dollar Value, Requirement Criticality, PALT Planned, Years of Experience

Table 31. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2759.668	6	459.945	8.587	.000[b]

	Residual	18373.021	343	53.566		
	Total	21132.689	349			

a. Dependent Variable: FEAR
b. Predictors: (Constant), Number of Source Selections, Protest Risk, Dollar Value, Requirement Criticality, PALT Planned, Years of Experience

Table 32. Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
Construct	B	Std. Error	Beta	t	Sig.
(Constant)	10.995	2.852		3.856	.000
PALT Planned	-.259	.091	-.150	-2.862	.004
Dollar Value	.721	.238	.155	3.032	.003
Requirement Criticality	.431	.135	.167	3.183	.002
Protest Risk	.374	.171	.116	2.190	.029
Years of Experience	.037	.042	.049	.881	.379
Number of Source Selections	-.267	.104	-.142	-2.558	.011

a. Dependent Variable: FEAR

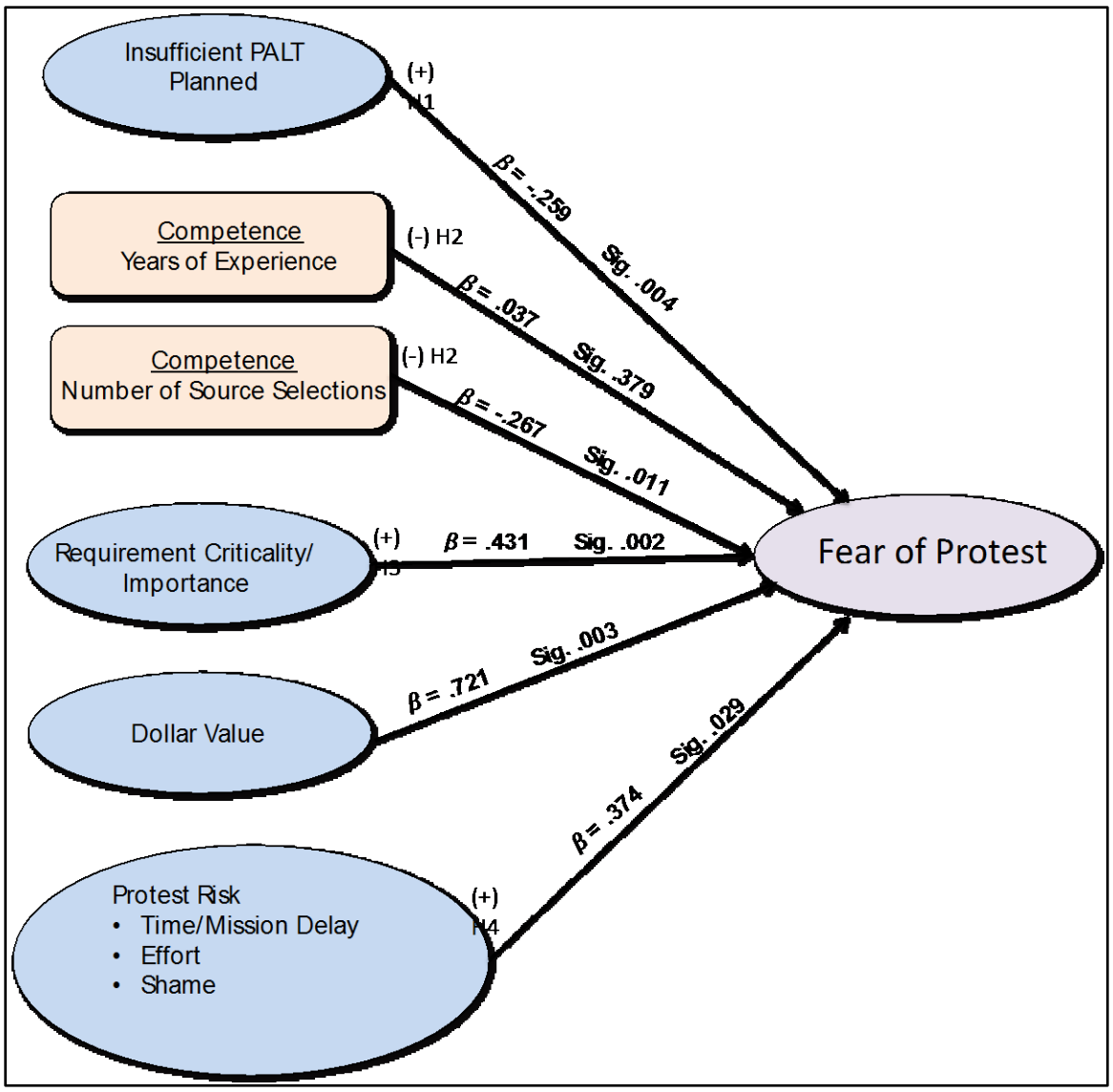

Figure 2. Left Side Hypothesized Model

2. Consequences of Fear Results

One of the objectives of this research is to determine the consequences of protest fear. Multiple variables were used to gauge the lengths that contracting personnel would take to avoid a protest. Some constructs, such as the amount of awarded contracts, were very straightforward in ascertaining whether a problem exists.

The right side of the model was then tested through a combination of simple linear regressions and logistic regressions in SPSS Version 22. Key statistics of these tests can be found in Table 33. Logistic regression, being well suited for analyzing dichotomous outcomes, is finding increased popularity in social science research (Peng & So, 2002). It is the appropriate statistical technique for performing analysis when the dependent variable is categorical. Hair et al. (2011) stated that Logistic Regression is

best suited to deal with two research objectives: identifying the independent variables that impact group membership in the dependent variable, and establishing classification systems based on the logistic model for determining group membership. Logistic regression estimates the probability that a particular outcome will occur. The relationship between independent and dependent variable is expressed in the form of an odds ratio, which expresses the probability. If the ratio is positive, "an increase in that independent variable will result in an increase in the probability of the event" (Keller, 2008, p. 742).

Linear regression was performed to analyze the relationship between the FEAR of protest and technical evaluation effectiveness (TEE), with FEAR being the independent variable and TEE being the dependent variable. TEE was measured using reverse-coded survey questions (items); thus, the inverse of the given responses was used in the test. There was a significant relationship (.000) between the two variables. The β coefficient was -.136, which was in the hypothesized direction.

The second test performed was a linear regression analyzing the relationship between FEAR of protest and perceived source selection method appropriateness (SSMA), using FEAR as independent variable and SSMA as dependent variable. The test failed to reject the null hypothesis (.275) that there was no linear relationship between FEAR and SSMA.

Since this analysis dealt with the consequences of protest fear, some aspects of different constructs were transformed into binary-coded variables. $SSMF^1$ and $SSMF^2$ were used to measure the difference between planned and actual procurement lead-time (PALT). $SSMF^1$ asked how many days were planned for the Source Selection in question, and $SSMF^2$ asked how many days the Source Selection actually consumed. To understand the effects of the independent variable FEAR of protest on Actual PALT, source selections that took longer than planned were coded as 1 and those that were less or the same were coded as 0. This model was significant (.000), but the Odds Ratio of 1.051 indicates slightly higher than 1 to 1 odds of having increased Actual PALT due to protest fear.

$SSMF^3$ and $SSMF^4$ were used to measure resources consumed to conduct the source selection. $SSMF^3$ asked how many personnel were on the Source Selection team and $SSMF^4$ asked how many there should have been absent a fear of protest. Three tests were run using FEAR of protest as the independent variable. The first was a linear regression using $SSMF^3$ as the dependent variable. This test was significant (.000) with a β coefficient of .010. Thus, as the fear of protest increases, so does the number of personnel assigned to a source selection. The next test used a binary variable for FEAR of protest labeled FEAR HI/LO, where a respondent whose summated FEAR rating was above average was coded as 1, and all others were coded as 0. $SSMF^3$ again was the dependent variable. Again, a linear regression was

performed since the dependent variable was not binary. This model was also significant (.000), but displayed a higher β coefficienct of .149. The last test was a logistic regression using the difference between $SSMF^3$ and $SSMF^4$. Those responses that had more people on the team than the respondent thought should be (absent a fear of protest) were coded as 1; all others were coded as 0. This test was not significant (.379).

A series of logistic regressions were then run on the appropriateness of two types of source selections—LPTA and Full Trade-Off—using responses from the variables $SSMF^6$ and $SSMF^8$. The first step in the test was to filter in only the respondents that used the particular Source Selection Method (i.e., LPTA or full trade-off). A dummy variable was then created to ascertain how appropriate the respondent thought the use of the method was. The questions used a seven-point Likert-type scale with 1 being "Completely Inappropriate" and 7 being "Completely Appropriate." Respondents that answered the questions with scores of 3 or less were coded as 1, and all others were coded as 0. Of note, there were 13 respondents out of 133 that used LPTA even though they felt it was to some degree inappropriate. 10 respondents out of 174 that used Full Trade-off even though they felt it was to some degree inappropriate. This inappropriate use totals 7.49 percent of the 307 respondents that used either LPTA or trade-off as a source selection method. Both tests used the same binary FEAR HI/LO independent variable in the aforementioned tests. The logistic regression test to measure the relationship with the use of the Full Trade-off inappropriateness was not significant (.181). The test using LPTA inappropriateness was significant (.010) with an Odds Ratio of 4.673.

Three tests were then performed to measure the relationship between the FEAR of protest and the use of discussions using $SSMF^9$, $SSMF^{10}$, and $SSMF^{12}$. The first test used the binary FEAR HI/LO independent variable to measure the level of satisfaction with the degree of discussions, using $SSMF^9$ as the dependent variable. $SSMF^9$ uses a seven-point Likert-type with 1 being "Completely Satisfied" and 7 being "Completely Dissatisfied." The test was significant (.037) with a β coefficient of .382. The test signifies that if FEAR of protest is high, the level of dissatisfaction with discussions rises slightly. The next test used the FEAR HI/LO binary independent variable and $SSMF^{10}$ as the dependent variable. $SSMF^{10}$ examined how much the level of discussions would change if there were no ability to protest. It used a seven-point Likert-type scale with 1 representing "No Difference" and 7 representing a "Substantial Difference." This test was also significant (.000) with a β of 1.289. The test signifies that respondents with high FEAR of protest would change the manner in which they conducted discussions if there were no threat of protest. The last test was a Logistic Regression performed on FEAR as the independent variable and $SSMF^{12}$. $SSMF^{12}$ asked whether discussions had been conducted or not, and was binary coded where 1 represented Yes and 0 represented No. This test was also significant (.037), but the Odds Ratio of 1.030 shows

only a slightly better than to 1 odds of FEAR having an effect on whether discussions are conducted. Hence, fear of protest tends to slightly increase the odds that discussions will occur.

The next test was a linear regression performed to analyze the appropriateness of oral presentations. The test used FEAR as an independent variable and $SSMF^{15}$ as the dependent variable. This test did not reject the null hypothesis (.261) that there is no linear relationship between the two variables.

The Awarded Contracts variable (AC) measured the difference between how many contracts were planned and how many were actually awarded. The AC variable was binary coded where respondents that saw more contracts awarded than planned was coded as 1 and all others were 0. There were 19 instances where more contracts were awarded than originally planned, representing 5.42 percent of respondents. However, this test was insignificant (.350) and no further analysis of this relationship was done.

Transaction Costs consists of two separate variables comprised of questions measuring the number of iterations of key source selection documents (TCI) and personnel costs of those associated with the source selection (TCP). Descriptive statistics of the TCI variables are shown in Table 33. TCP was calculated by asking respondents the number, rank, and fraction of one year's time spent on the source selection by role. The average 2013 General Schedule annual pay was used to calculate the cost for each role, and then summed for each source selection into the TCP dependent variable. The values ranged from a low of $7,000.00 to a maximum of $3,551,944.33. The average cost per source selection was $235,236.34, with a standard deviation of $291,620.05. Linear regression was used to test the relationship between the independent variable, FEAR of protest, and TCP. The test was significant (.018) but displayed a very low β of .009. While there was a statistically significant relationship between these two variables, the effect size is minute.

The next series of tests were on the TCI variables. Normality was achieved on only four types of source selection documents of many types of documents measured—Source Selection Plan, Debriefing Script, Color/Rating Chart, and Evaluation/Briefing Chart to the Source Selection Authority. The first test measured the relationship between the independent variable, FEAR, and TCI^4, which represents the number of iterations of the Source Selection Plan. This test was shown to be significant (.000), and had a β of .023. The second test measured the relationship between the independent variable, FEAR, and TCI^5, which represents the number of iterations of the Debriefing Script. This test was also shown to be significant (.000), and had a β of .028. The third test measured the relationship between the independent variable, FEAR, and TCI^9, which represents the number of iterations of the Color/Rating Chart. This test was shown to be significant (.000), and had a β of .020. Finally, the last test measured the

relationship between the independent variable, FEAR, and TCI[10], which represents the number of iterations of the Evaluation/Briefing Chart to the Source Selection Authority. This test was shown to be significant (.000), and had a β of .018. While there is a significant relationship between FEAR of protest and the number of changes to each of these documents, the magnitudes of the relationships were small.

Table 33. Document Iteration Descriptive

Document	N	Min	Max	Mean	Std. Deviation
Source selection decision document	350	.00	12.00	2.6429	1.80604
Comp. assessment/proposal analysis report	350	.00	10.00	2.4743	1.66307
Evaluation notices	350	.00	21.00	2.3314	2.55796
Source selection plan	350	.00	12.00	2.7514	2.02093
Debriefing scripts	350	.00	15.00	1.9657	1.98099
Technical evaluations	350	.00	17.00	3.4143	2.38244
Past performance evaluations	350	.00	20.00	2.7486	2.62666
Cost/Price analysis	350	.00	17.00	2.3086	1.87937
Color/rating chart	350	.00	11.00	1.3257	1.60128
Evaluation briefing charts for reviewers and SSA	350	.00	10.00	1.7257	1.61624

The last hypothesized consequence of FEAR to be tested was the effect on contracting officer authority. Two tests were performed using CO AUTH as the dependent variable. The first test used the binary FEAR HI/LO and the second test used a continuous measure of FEAR (on a one to seven scale) as the independent variable. The first test had a significance of .914, which is not significant. The second test had a significance of .093 which is considered marginally significant using an α value of .10. The β coefficient was -.070, which was in the direction hypothesized.

The object of the final set of tests was to analyze hypothesized relationships between the technical evaluations' effectiveness (TEE) and perceived source selection method appropriateness on contractor performance (CP). Multiple regression was used to analyze this relationship. The construct TEE and SSMA were used as the independent variables and CP was used as the dependent variable. The overall test was significant (.000). TEE was significant as an independent variable (.001) and had a β of .327. SSMA was also significant as an independent variable (.000) and had a β of .328. This test showed significant relationships between the TEE and CP, and between SSMA and CP. The βs indicated moderate effect sizes.

Next, two exploratory tests were performed on the inappropriate use of LPTA as the independent variable and contractor performance as the dependent variable. Only the 133 responses that used LPTA were included in these tests. For the first test, a binary variable was used, in which respondents that felt LPTA was anything other than appropriate (4 or less) were coded as 1 and all others were 0. The test showed a significant relationship (.010) between the variables, and a β of -4.355 indicating that CP decreases significantly for those respondents that felt the use of LPTA was other than appropriate. The second test used the continuous LPTA appropriateness scores where 1 represents "completely inappropriate" and 7 represents "completely appropriate." CP was the dependent variable. This test was also significant (.006) with a β of 1.237. This shows that as LPTA appropriateness increases by one unit, CP also increases by 1.237 (on a seven-point scale).

The final test was a linear regression to measure the relationship between contractor performance and buyer satisfaction. The construct CP was used as the independent variable and BS was used as the dependent variable. The test showed a significant (.000) positive relationship between the two variables; the magnitude of the β was.285. A summary table of all key regression data can be found in Table 34. A visual depiction of all relationships associated with the right side of the model can be found in Figure 3.

Table 34. Key Statistics from Right-Side (Consequences) Regressions

Independent Variable	Dependent Variable	N	R^2	Adj R^2	D.F.	Sig.	β	β Sig.
FEAR	TEE	350	.064	.061	349	.000	-.136	.000
FEAR	PALT Actual**	350	.047	-	349	.000	1.051*	.001
FEAR	SSMA	350	.003	.001	349	.275	-.050	.275
FEAR HI/LO**	SSMF6** (LPTA Appropriateness)	133	.048	-	132	.010	4.673*	.015
FEAR HI/LO**	SSMF7** (T/O Appropriateness)	174	.010	-	173	.181	.416*	.187
FEAR HI/LO**	SSMF9 (Satisfaction w/ discussions)	350	.012	.010	349	.037	.382	.037
FEAR HI/LO**	SSMF10 (Hypothetical change)	350	.100	.097	349	.000	1.289	.000
FEAR	SSMF12** (Discussions Held Y/N)	350	.012	-	349	.037	1.030*	.038
FEAR	SSMF15 (Oral Pres. Appropriateness)	350	.004	.001	349	.261	-.016	.261
FEAR	SSMF3 (Resources)	350	.077	.074	349	.000	.010	.000
FEAR HI/LO**	SSMF3 (Resources)	350	.066	.063	349	.000	.149	.000
FEAR	SSMF3** (More Resources than needed)	350	.002	-	349	.378	1.013*	.379
FEAR	TCI	350	.101	.099	349	.000	.014	.000
FEAR	TCI4 (Source Selection Plan)	350	.084	.082	349	.000	.023	.000
FEAR	TCI5 (Debriefing Scripts)	350	.078	.076	349	.000	.028	.000
FEAR	TCI9 (Color/Rating Chart)	350	.038	.035	349	.000	.020	.000
FEAR	TCI10 (Evaluation/Briefing Chart for SSA)	350	.038	.035	349	.000	.018	.000
FEAR	TCP	270	.021	.017	269	.018	.009	.018
FEAR	AC**	350	.002	-	349	.350	1.029*	.355
FEAR	CO AUTH	350	.008	.005	349	.093	-.070	.093
FEAR HI/LO**	CO AUTH	350	.000	-.003	349	.914	-.070	.914
TEE***	CP	350	.123	.118	349	.000	.327	.001
SSMA***	CP						.328	.000
SSMF6**(LPTA Appr)	CP	133	.049	.042	132	.010	-4.355	.010
SSMF6	CP	133	.057	.049	132	.006	1.237	.006
CP	BS	350	.442	.441	349	.000	.285	.000

* Exp β from Logistic Regression
**Binary
***Multiple Regression

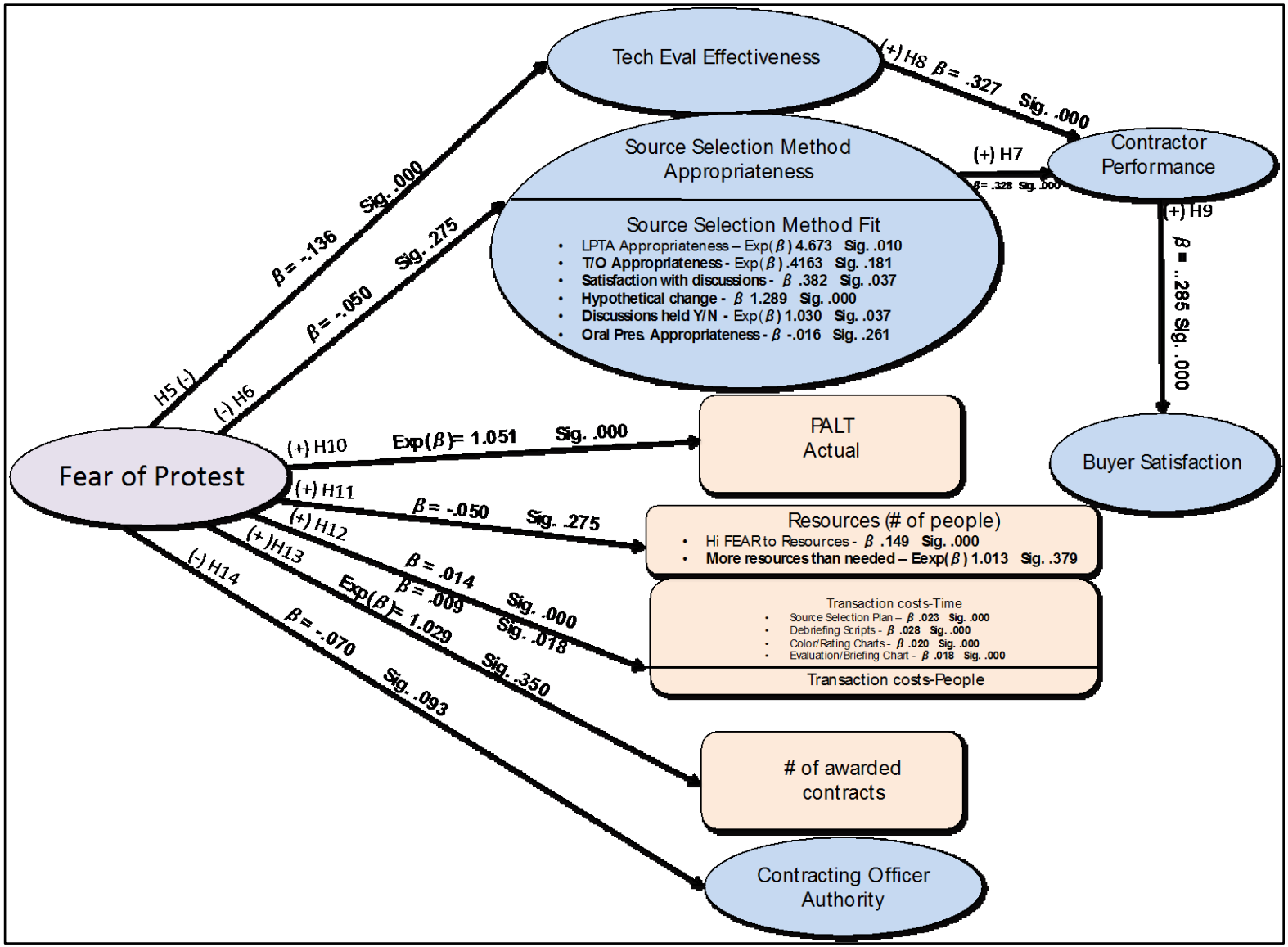

Figure 3. Right Side of Hypothesized Model

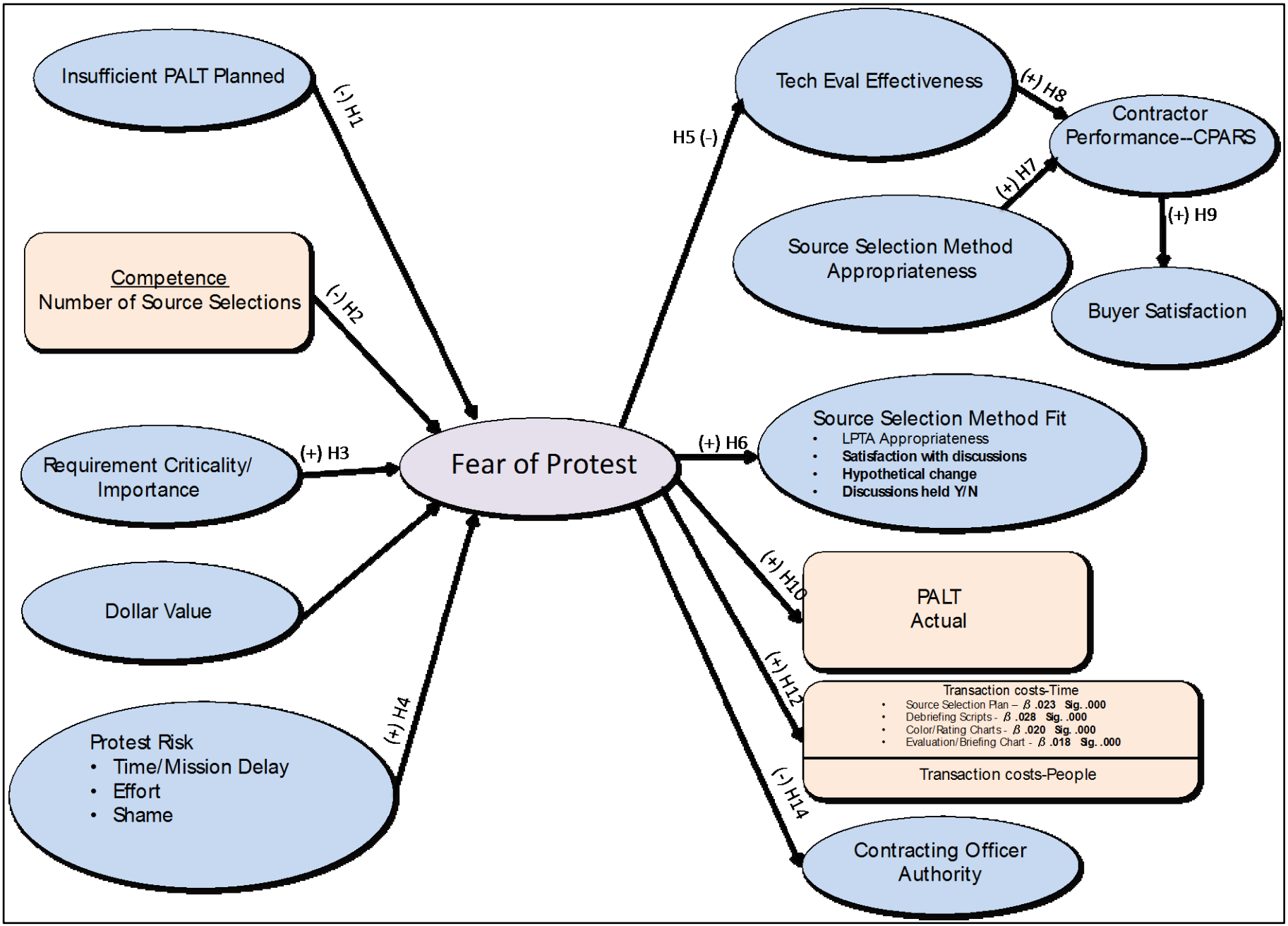

Figure 4. Statistically Significant Model

H. CONCLUSION

In summary, this chapter reported the results of the linear, multiple, and logistic regressions performed on the 350 usable survey responses. Firstly, the 350 responses were analyzed to verify that the data was appropriate for being used in regression analysis (i.e., that the assumptions of regression were satisfied). Exploratory Factor Analysis was then performed to purify scales, in which 35 items were retained for eight constructs, with all constructs being measured by no fewer than three items and exhibiting sufficient reliability coefficients (Muir, 2010). Finally, the hypothesized model was analyzed using regression analysis. Several relationships were shown to be statistically significant, which supported 12 of 14 proposed hypotheses. Lastly, the hypothesized model was presented with only the statistically significant relationships shown (Figure 4). For ease of interpretation, a summary table containing the significance level of each hypothesis can be found in Table 35.

Table 35. Summary of Hypothesis Testing

Hypothesis		Supported?
H1	Insufficient PALT has a direct positive relationship on the level of fear of protest.	Yes
H2	The greater a contracting officer's Competence level, the lower the level of fear of protest.	Yes
H3	The level of requirement criticality/importance has a positive impact on the level of fear of protest.	Yes
H4	As protest risk increases, the level of fear of protest increases.	Yes
H5	The level of fear of protest has a negative effect on the technical evaluation effectiveness.	Yes
H6	There is a direct positive relationship between fear of protest and the Source Selection method fit/ appropriateness.	Partially
H7	There is a positive correlation between the fit/appropriateness of a source selection and contractor performance.	Partially
H8	There is a positive relationship between technical evaluation effectiveness and contractor performance.	Yes
H9	There is a direct positive relationship between contractor's performance based on the source selection method used and the Buyer's satisfaction.	Yes
H10	There is a direct positive relationship between fear of protest and the actual PALT.	Yes
H11	There is a direct positive relationship between fear of protest and the number of Human Resources assigned to the source selection team.	No
H12	There is a direct positive relationship between fear of protest and transaction costs.	Yes
H13	The higher the level of fear of protest, the greater the number of awarded contracts.	No
H14	There is a direct negative relationship between fear of protest and the contracting officer's Authority.	Yes

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V. DISCUSSION AND RECOMMENDATIONS

A. INTRODUCTION

The objective of this research was to address gaps in the literature review and offer acquisition leaders, practitioners, and scholars a better understanding of the causes and effects of a fear of protest. From this research, acquisition leaders and practitioners can better align their internal/external policies, acquisition strategies, and resources to mitigate the causes and effects of fear of protest, which ultimately saves money and increases customer satisfaction (mission) and contractor performance.

The existing literature (Manuel & Schwartz, 2011; Schwartz et al., 2013; O'Rourke, 2014), Gordon's publication (2013), and other publications (Knauth, 2013; Maser et al., 2010; Kendall, 2012), were used to identify problems that have not been addressed, specifically, the magnitude of fear of protests, the extent that fear of a protest affects an acquisition strategy, and the lengths that acquisition professionals would go to avoid a protest. These problems, to this point, have been largely anecdotal. This study is the first to assess the magnitude of fear of protest, and the first to empirically explore its antecedents and consequence.

To close the gaps in the existing literature, this research addressed the following three research questions:

> *Research Question 1: Are contracting officers sufficiently concerned about bid protests to alter acquisition strategies?*
>
> *Research Question 2: If so, what factors affect protest "fear"?*
>
> *Research Question 3: What are the consequences to the acquisition strategy and contract outcomes?*

Because of the nature of the research questions, it was appropriate to use a combination of qualitative and quantitative methodologies. Literature from several governmental, public, and private studies and reports were used to develop the conceptual model, 14 hypotheses, an interview questionnaire, and an online 115-question survey. Once the data was collected and analyzed from 350 responses that represented a diverse population of U.S. Navy contracting officers, regression analysis was performed using SPSS Statistics Version 22.0.

From the statistical analysis, many of the hypotheses had significant relationships. Overall, the magnitude of those relationships was relatively small. Among the more significant outcomes, the research determined that fear of protest decreases the technical evaluation effectiveness, which decreases the contractor's performance, and ultimately decreases buyer satisfaction. Additionally, fear of a

protest is linked to inappropriate use of the LPTA source selection method, to delays in contract awards, to increased transaction costs, and to dissatisfaction with discussions with offerors.

B. DISCUSSION AND IMPLICATIONS

In this section, the research results as well as managerial implications are discussed. Additionally, the results of the hypothesis testing and regression analysis are discussed. The analysis resulted in statistically significant estimates for 10 of the hypotheses (Hypotheses 1–10 and 12), marginally significant estimates for one of the hypotheses (14), and estimates with no statistical support for two of the hypotheses (11 and 13)

This section is organized as follows. First, the question of what is the magnitude of fear of protest among U.S. Navy contracting officers was answered and discussed. Secondly, each result of hypothesis testing is discussed and explained.

1. Magnitude of Fear

A histogram of the values for fear of protest can be found below in Figure 5. The left side indicates less fear and the right indicates more. For clarification, 16 respondents indicated that they strongly disagreed, indicating a low level of fear, and eight indicated that they strongly agreed, indicating a high level of fear. The combined average response that indicates neither agree nor disagree is 19.71 on a possible scale range from five to 35. This would indicate that, on average, the respondents fell between neither disagree or agree. There are, however, many respondents that fear a protest, and this can have an effect on acquisition strategies. Notably, there is a small but distinctly separate contingent of respondents (16, or 4.5 percent) who did not fear a protest at all. Consistent with the qualitative comments received in the comments field of the survey and in qualitative interviews, these strongly-held perspectives may be personal philosophies that protests are a natural part of the acquisition process. In other words, why fear what is expected? Importantly, this small contingent slightly reduced the average fear, meaning that the average of the remainder of the sample would be slightly higher at 20.41. Nonetheless, there appears not to be a strong, pervasive problem of a fear of protest within the Navy.

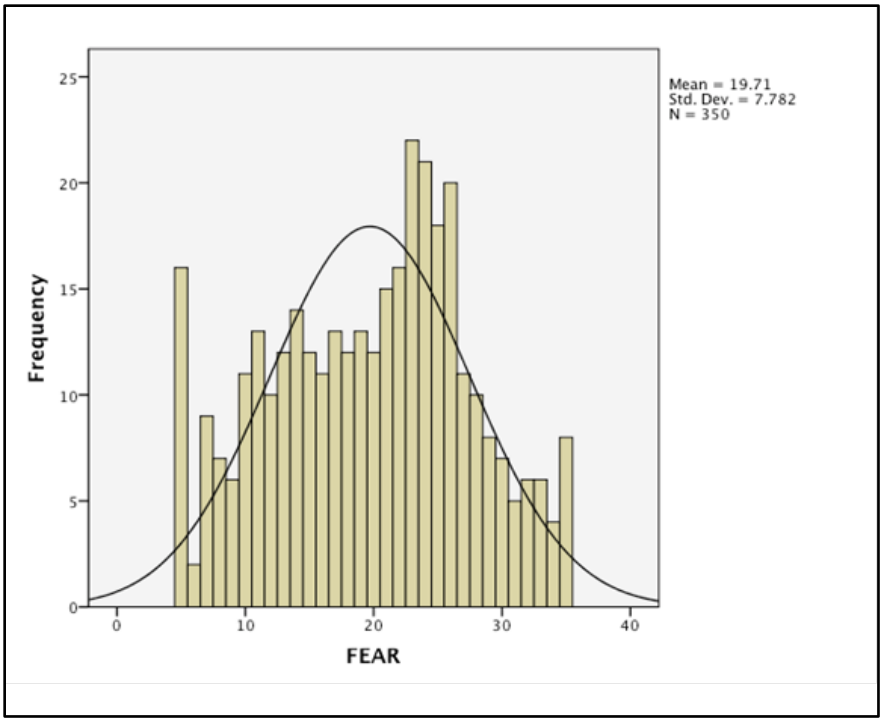

Figure 5. FEAR Construct Histogram

A low level of a fear of protest could be explained by a contracting officer's confidence resulting from their experience or in their ability to properly conduct a source selection. As one of the interview participants pointed out,

I am not fearful of a protest because if you protest me and I did it right, what—the protest is not going to be sustained, it is going to be denied. So the fear of a protest is usually not present other than the delay in the procurement action in case it is an urgent action or something that needs to get in place and time. It may delay the action, there may be a stay of some sort, but other than that avoiding a protest—just doing the right thing avoids a protest.

Conventional wisdom suggests that high levels of exposure to something can lower the amount of fear one has in it occurring. Out of an average of 13.12 years of contracting experience, contracting officers only experienced an average of 1.96 bid protests.

2. Insufficient PALT Planned

Hypothesis 1: Insufficient PALT has a direct positive relationship on the level of fear of protest.

There is strong evidence that suggests insufficient PALT is a contributor to the level of fear of protest. Although the relationship is significant, the coefficient is low. The more insufficient the planned procurement lead-time is thought to be, the

level of fear of a protest increases. Alternatively, when insufficient PALT decreases, the level of fear decreases.

The relationship is very plausible. When acquisition personnel have less planned PALT than they believe is necessary to properly conduct the source selection, there is less time to adequately follow an acquisition strategy. This insufficient time increases the concern of a protest because internal customers and acquisition personnel may unnecessarily rush the acquisition process. This relationship is particularly plausible when the EOFY is approaching. Customers must obligate their remaining funds before the EOFY, September 30, or lose the remaining funds. In some instances, customers submit to the contracting agencies their requirements a few days before the EOFY. There is little time to adequately complete the acquisition process.

3. Contracting Officer's Competence

Hypothesis 2: The greater a contracting officer's competence level, the lower the level of fear of protest.

In the examination of a contracting officer's years of experience as an indicator of his or her competence, there was no relationship with a fear of protest. There is strong evidence, however, that a contracting officer's competence in terms of the number of source selections experienced lowers the level of fear of bid protest. The coefficient path of -.267 suggests that there is a negative relationship between the contracting officer's source selection participation and the level of a fear of protest.

It was hypothesized that there would be a relationship with both the years of experience and the number of source selections experienced. However, the lack of a relationship with regard to years of experience can be explained because of a few likely scenarios. Experience in a FAR Part 15 source selection can vary greatly regardless of one's years of experience. Some may have been in the contracting career field for many years but have rarely dealt with a FAR Part 15 source selection because they have worked mainly post-award contract administration, pre-award simplified acquisitions, or are in a mission area whose requirements are mostly sole source procurements such as research and development. The number of source selections is a better determinant for measuring competence than is years of general contracting experience. The research supports that the greater the quantity of FAR Part 15 source selections a contracting officer has experienced, the more comfortable they become in their ability to work through the proper process and ultimately have less fear of a bid protest.

The empirical data also did not support the DAWIA certification level as a surrogate measure of competence. No relationship between DAWIA certification

level and fear of protest was found. There can very well be a contracting officer with a level two DAWIA certification that has more source selection experience than a level three DAWIA certified contracting officer. DAWIA level is not a reliable indicator of experience, capability, and therefore, a KO's confidence in ability.

It is important for practitioners to understand that competence comes in many forms and the person selected for a source selection of importance should not be chosen on DIAWA level or years of general contracting experience alone; but they should also look at how many source selections the contracting officer has experienced.

4. Requirement Criticality/Importance

Hypothesis 3: The level of requirement criticality/importance has a positive impact on the level of fear of protest.

There is overwhelming evidence that requirement criticality/importance is a contributor to the level of fear. The relationship for Hypothesis 3 is statistically significant and the path coefficient is positive and fairly strong, Therefore, as the level of the requirements criticality/importance increases, the level of fear of protest increases. There is much more concern and pressure to ensure the customer gets the requested requirement in a timely manner when the requirement is critically important to their mission. Protests take time and delay the customer's receipt of his or her required products or services. If the requirement is of great importance to the customer, the pressure from this importance is felt by the contracting officer. This can increase the contracting officer's level of a fear of protest. Managers should be aware of this and ensure that proper planned PALT is built into the acquisition strategy to counter the increase of a fear of protest and to ensure enough time for proper peer reviews.

5. Protest Risk

Hypothesis 4: As protest risk increases, the level of fear of protest increases.

There is strong evidence suggesting that protest risk is a contributor to the level of fear of protest. The relationship for Hypothesis 4 is statistically significant, and the beta coefficient is positive. As the level of undesirable consequences increases, the level of fear increases. There is a perception that a bid protest reflects poorly on the contracting officer, as demonstrated by the following quote by one of the contracting officers interviewed: "'oh, you got a protest. What did you do wrong?' kind of thing. I don't think there is validity to that, but I think that sometimes it is looked at, oh so you got a protest so maybe they didn't do something right in there." Another contracting officer interviewed expressed that, "Well, first off is that it reflects poorly on the command. It gives the command a bad reputation in terms of being

able to follow the source selection plan, for example, professionalism of the contract specialist and contracting officers and the source selection team and all of the people that contribute to the award decision. Secondly, protests they take a lot of time."

On the other hand, in some commands it is considered a career milestone to have experience with a protest for promotion to GS-13, as was expressed in our interviews. Another common theme throughout our interviews, and as indicated in our survey responses, is the increased workload a protest demands. Everyone is busy, and the last thing needed is additional work. Furthermore, new requirements do not stop coming just because a protest occurred; a protest can significantly increase an already overburdened work load.

There are several consequences to the acquisition strategy and contract outcomes as a result of fear. The following hypotheses focus on the results relating to these consequences.

6. Technical Evaluation Effectiveness

Hypothesis 5: The level of fear of protest has a negative effect on the technical evaluations effectiveness.

As a result of fear, there is statistical evidence that supports a negative effect on the effectiveness of technical evaluations. The negative relationship between fear of protest and effectiveness of technical evaluations is small, however. The relationship suggests that as a person's level of a fear of protest increased, the effectiveness of the technical evaluation decreased. From the research data, on a scale of one to seven with one being strongly disagree and seven being strongly agree, responses averaged 4.5 on this scale that measured "At least one technical evaluator expressed concern about not being able to say what needs to be said in the technical evaluation." contracting officers somewhat agreed with an average of 4.63 on the scale that "At least one technical evaluator was concerned that the constraints imposed on their evaluations impeded his/her ability to write a meaningful evaluation." This suggests that the technical evaluators do not believe the process is sufficiently optimized. Additionally, on the scale for "Upon evaluation of proposals, at least one technical evaluator expressed a need to change at least one evaluation criterion or its definition;" the contracting officer somewhat agreed with this with an average of 4.53. It is plausible that a contracting officer's fear of protest could lead them to change the wording or the standards of the technical evaluations. To a certain degree, without the threat of a bid protest, the quality of the technical evaluation would change. The statistical analysis suggests that the effectiveness of the technical evaluations decreases as the level of fear increases.

7. Source Selection Method Fit/Appropriateness

Hypothesis 6: There is a direct positive relationship between fear of protest and the Source Selection method fit/appropriateness.

Hypothesis 6 was partially supported and tests were consistent with the relationship hypothesized. The hypothesis measured fear of protests effect on both perceived Source Selection Method Appropriateness and on multiple aspects of the source selection strategy. The relationship between fear of protests and source selection method appropriateness was not supported. The appropriateness construct consisted of questions relating to the acquisition strategy used on the particular source selection. Acquisition strategy is a broad topic that encompasses decisions made by various stakeholders early on in the process of fulfilling a requirement. It is plausible that these decisions are made so early that the factors that contribute to fear of protest have not been solidified.

Several relationships between fear of protest and various aspects of the source selection strategy were found, however perhaps the most telling evidence of the deleterious effects that fear of protest was its impact on LPTA inappropriateness. Significant findings included

- Method inappropriateness—While it represents only 7.5 percent of the respondents that used either LPTA or trade-off methods, it must be noted that 23 respondents used a source selection method that they felt was to some degree inappropriate. The relationship between fear of protests and the inappropriate use of LPTA was significant. The results show that practitioners with high fear of protests are four times more likely to inappropriately use LPTA.
- Negative effects on satisfaction with discussions—significant relationships were found between fear of protests and satisfaction with discussions. When fear of protests exists, the level of satisfaction to freely and openly conduct discussions with an offeror diminishes. While the effects were marginal, the mere existence of this relationship is significant. When respondents were measured for the extent that they would change discussions if there were no ability to protest, the results were also significant. The results indicated there would be a distinct change in discussions if the protest system did not exist.

The negative effects that the fear of protest has on source selection decision-making can be seen most in the variables measured to test this hypothesis. Contracting professionals are trained and trusted to make decisions that support the best interest of the government. It was statistically shown that fear of protests does

have a negative effect on acquisition strategy decisions. However, it must be noted that the magnitudes of effects is not substantial.

8. Contractor Performance

Hypothesis 7: There is a positive relationship between the fit/appropriateness of a source selection and contractor performance.

Hypothesis 8: There is a positive relationship between technical evaluation effectiveness and contractor performance.

Although source selection method appropriateness was not statistically significant in its relationship with fear of a protest, Hypothesis 7 was significant. There is a positive relationship between perceived source selection method appropriateness and contractor performance. As acquisition strategies are properly tailored to fit requirements, contractor performance tends to increase as a result. In assessing source selection method appropriateness, survey respondents were prompted to consider 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.). They were also asked to rate how well the strategy would achieve the acquisition objectives and how well the strategy would help select the best offeror.

Hypothesis 8 was also statistically significant. As the effectiveness of technical evaluations increases, so does the contractor performance. Hence, as more effective technical evaluations are generated, the more apt the source selection team is to select the contractor(s) that can perform the work well. The contractor that has the best value to the government is selected for the requirement, which will ultimately lead to greater contractor performance.

9. Buyer Satisfaction

Hypothesis 9: There is a direct positive relationship between contractor's performance based on the source selection method used and the Buyer's satisfaction.

There is overwhelming evidence that suggest that the contractor's performance contributes to an increase in the buyer's satisfaction. The relationship suggests that, as a contractor's performance increases, buyer's satisfaction increases. The contracting officer's responsiveness and willingness to address the concerns of the customer can lead to a better suited acquisition strategy and have a positive effect on customer satisfaction. The contracting officer is working on behalf of the customer and the customer is the lifeblood of the contracting activity. It is in the best interest of the contracting activity to ensure proper contract performance by using the appropriate contract vehicle, source selection method, and overall acquisition strategy. This will, in turn, improve customer satisfaction and increase

their public value to the taxpayer. Therefore, it is imperative for contracting officers to select the appropriate source selection method to choose the best Contractor to satisfy the buyer's requirements and expectations.

10. PALT Actual

Hypothesis 10: There is a direct positive relationship between fear of protest and the actual PALT.

There is statistical evidence that suggests that a fear of protest contributes to an increase in actual PALT. The data suggests that there is a slightly greater than 50 percent chance that the actual PALT will increase as a result of fear of protest. If contracting officers are concerned about a protest, then they will spend more time to justify their decisions. They could seek assistance from other acquisition personnel for their opinion and recommendations, which can increase actual PALT. They can also refer to their legal advisors and supervisors who likely recommend additional steps or reworked documents that, in turn, ultimately increasing actual PALT. From the data, the average PALT planned was 182.97 days (6.09 months). The average actual PALT was 236.72 days (7.89 months). The difference is 53.75 days (1.79 months). Added time is added money (i.e., transaction costs). Thus, efficiency is compromised with greater fear of protest. The data suggests that some of this additional time can be attributed to a fear of protest. Although not tested, this can have an effect of customer satisfaction and delay mission capabilities.

11. Resources

Hypothesis 11: There is a direct positive relationship between fear of protest and the number of Human Resources assigned to the source selection team.

There is statistical evidence that supports a direct positive relationship between protest fear and the number of personnel assigned to the source selection team (boards, contracting team, price analysis team, past performance team, legal team, and technical evaluation team). Additionally, the research data captures an average of 8.96 people are on the source selection team. Without the risk of protest, contracting officers believe that an average of 7.65 people should have been on the source selection team. The difference is 1.33 people. Additionally, 110 survey respondents indicated that they had more people than what they believed was needed. More people translate into more transaction costs. The results suggest that at least one person too many is assigned. Perhaps more attention is needed to not over-staff teams thereby avoid wasted resources. Additionally, if fear of protest can be reduced, team size can be reduced and transaction costs can be avoided. While these salary costs may be dismissed as sunk costs, certainly excess personnel could accomplish other pertinent work if not serving on the source selection team.

12. Transaction Costs

Hypothesis 12: There is a direct positive relationship between fear of protest and transaction costs.

There is strong evidence that a fear of protest causes a small increase in transaction cost. The average cost per transaction was $235,236 with a standard deviation of $291,620. The research also uncovered that for every dollar awarded in a source selection there is an average of 0.08 cents in personnel cost. Without a known benchmark, it is difficult to generalize the magnitude of these costs.

As the level of fear of a protest increase, the cost devoted to the source selection process increases as well. Furthermore, as the fear of a protest increases, so do the iterations of common source selection documents. The data showed that a fear of protest directly caused a small increase in the amount of iterations of the following documents: source selection plan, debriefing scripts, color and rating charts, and evaluation debriefing charts. These documents must be completed and reviewed by human capital costing additional time and money devoted to a source selection. We found very little qualitative evidence that transaction costs were of any concern to interview informants. The maxim appears to be to defend the acquisition against a protest no matter the cost in terms of time and effort.

13. Number of Awarded Contracts

Hypothesis 13: The higher the level of fear of protest, the greater the number of awarded contracts.

There is no statistical evidence to suggest that the higher the level of fear, the greater the number of awarded contracts. From the data, contracting officers are awarding about the same amount of contracts that they planned. An average of 2.24 contracts was planned. An average of 2.39 contracts was awarded. There is a small difference of 0.15, but our data suggests that fear is not a factor in the number of awarded contracts. As reported in the trade literature, there are instances of awarding more contracts in order to thwart a specific protest, but this practice appears not to be pervasive.

14. Contracting Officer Authority

Hypothesis 14: There is a direct negative relationship between fear of protest and the contracting officer's authority.

Although the statistical evidence is marginally significant, there is some evidence that fear of protest diminishes contracting officers' authority (i.e., discretion in making decisions).

This relationship has plausibility. As contracting officers are more concerned about a protest, they seek assistance in avoiding a protest, which could diminish

their discretion in making decisions. If a contracting officer goes to the legal advisor, Legal could influence the contracting officer's decision through their legal opinion and recommendations. Often, Legal and committee advisors will be conservative and recommend wording changes to documents, changes to ratings, amendments to the RFP and subsequent invitations for revised proposals, and/or further discussions to clear up any uncertainty in evaluations.

Additionally, if a contracting officer has a high level of fear of protest, other acquisition team members likely do as well. A high concern of a protest could cause others not to empower, trust, or support the contracting officer with making the required decisions, which could diminish a Contracting officer's discretion in making decisions. During the interviews, it appeared that the level of which the contracting officer felt compelled to take the advice of legal as "gospel" depended on the contracting officer. Some felt as though they were compelled to take the advice of legal and some felt it was within their discretion to do what they, as the contracting officer, thought was the best course of action.

It is ultimately obviously the contracting officer's decision and it basically depends on what their comfort level is in terms of some won't turn their head without getting an opinion from legal and making sure that they sign off on it and other ones basically believe—and I agree—that legal is an advisory role, obviously.

It has been noted during our interviews that the legal department is the most concerned about a protest. This makes sense since they will carry a lot of the work involved in a protest if received. It has also been stated in our interviews that legal advocates for a LPTA source selection methodology. Since our data suggests that there is a very weak negative relationship with a fear of protest and contracting officer's authority, we can infer that the contracting officers are not unnecessarily influenced by legal, but there were 13 cases in our 350 respondents in which the contracting officer chose LPTA even though they believed it was not the best course of action.

C. ANSWERS TO RESEARCH QUESTIONS

1. Research Question 1: Are contracting officers sufficiently concerned about bid protests to alter acquisition strategies?

The answer to this research question is '*yes*.' U.S. Navy contracting officers change aspects of acquisition strategies to avoid a protest. However, U.S. Navy contracting officers appear not to be *overly* concerned about a bid protests. The concerns of protest exist, but overall the magnitude is not excessive. There is little evidence from the research suggesting that contracting officers drastically alter acquisition strategies to avoid a protest.

There is evidence to suggest that a fear of protest can alter an acquisition strategy. The 350 survey respondents, who have an average of 13.12 years of contracting experience, were asked throughout their career, how many times they have awarded a task/delivery order against an IDIQ contract (or Blanket Purchase Agreement [BPA]) in order to avoid a bid protest. The data shows that 88 respondents had done so throughout their career with 4,139 contracting actions. It was also shown that 67 respondents avoided a protest using a sole source award throughout their career (1011 contracting actions) and 80 respondents had modified an existing contract throughout their career in order to avoid a protestable competitive procurement (1,065 contracting action). With 350 respondents that have an average of 13.12 years of experience, this equals 4,784.5 years of total experience. The total contracting actions from the three previously discussed survey questions totals 6,215. This is just under 1.3 redirected contracting actions per year of experience. There are consequences of a fear of protest that our research revealed. These consequences are discussed in research question three.

2. Research Question 2: If so, what factors affect protest "fear"?

Based on the regression model, insufficient PALT, protest risk, the number of source selections a contracting officer previously experienced, and the requirement criticality/importance are the factors that affect a fear of protest. Neither a Contracting officer's years of contracting experience nor their DAWIA certification level affected the fear of protest.

3. Research Question 3: What are the consequences to the acquisition strategy and contract outcomes?

Based on the significant levels, a fear of protest can have negative consequences on the effectiveness of technical evaluations leading to a decrease in contractor performance and, in turn, buyer satisfaction. An increase of fear of protest has a negative effect on technical evaluations effectiveness. Technical evaluation effectiveness has a positive influence on contractor performance which, in turn, is positively related to buyer satisfaction. Technical evaluation effectiveness considered elements such as (a) being able to say what needs to be said, (b) being able to write a meaningful evaluation, and (c) a need to change an evaluation factor or its definition.

The perceived appropriateness of the source selection method will also have a positive impact on contractor performance. The more appropriate the source selection method used, the higher the contractor performance leading to greater buyer satisfaction. A notable finding from this research is that the inappropriate use of LPTA was shown to have a substantial negative impact on contractor performance.

Actual PALT can increase as a result of a fear of protest. The research data revealed that there is a 50 percent chance that PALT will increase as a result of fear. Thus, efficiency is compromised with greater fear of protest. The data suggests that some of this additional time can be attributed to a fear of protest. Although not tested, this can have an effect of customer satisfaction and delay mission capabilities.

Contracting officers perceive their authority to decrease as their fear of protest increases. A plausible explanation can be that as contracting officers are more concerned about a protest; they seek assistance in avoiding a protest, which could diminish their discretion in making decisions. Additionally, a high concern of a protest could cause others not to empower, trust, or support the contracting officer with making the required decisions, which could diminish a contracting officer's discretion in making decisions.

Fear of protest also has a negative impact on the level of satisfaction with discussions. As fear increases, the contracting officer's satisfaction with discussions decreases. This is an indicator of suboptimal discussion that could have implications for the awarded contract and, more importantly, contractor performance. Another consequence of a fear of protest is the transaction cost and time associated with the source selection. As a fear of protest increases, so do the iterations of some documents, such as source selection plan, debriefing scripts, color and rating charts, and evaluation debriefing charts. This can lead to additional time and money (i.e., opportunity costs) spent on the requirement.

D. IMPLICATIONS AND RECOMMENDATIONS FOR PRACTITIONERS

This section discusses some of the possible implications this study revealed and what managers and practitioners can learn from them. As discussed earlier, the magnitude of fear of protest does not appear to be a pervasive problem within the Navy's contracting community, but there are many contracting officers that allow this fear to affect elements of their acquisition strategy. There were 23 survey respondents (7.49 percent) that revealed that the source selection method used was to some degree inappropriate. While this proportion appears insignificant, it can be argued that any single instance of an inappropriate source selection method gives room for pause to see what is driving this inappropriateness. As mentioned by an interview participant, "I will tell you, legal pushes the LPTA. They push it a lot." Another interviewee mentioned, "at this juncture, there are too many hands in the soup, and the Procuring Contracting Officer (PCO) authority has been diminished. Attorneys need to resume the role of counselors again." Fear of protests does not generate good contracts, or in this case can prevent any award from being made.

Recommendation 1: Agencies should foster a culture that empowers the contracting officer to perform the job they are trained to accomplish.

Since the source selection method is not a matter of legal sufficiency, Legal should not determine the source selection method used, nor should they encourage any particular source selection method such as LPTA. Selecting the source selection method is a contracting officer's decision based on experience, knowledge, and professional judgment; contracting officers should feel empowered and should in no way be influenced against their better judgment. Otherwise, Federal Government agencies may have a professional field with a high degree of accountability but subtly-diminished authority. Acquisition leaders should reassure their contracting officers that they have the ultimate say in the source selection method employed, and that legal's role is to advise and to clarify the many legal issues that contracting within the government entails. If the contracting officer does not have the authority or believes that the legal department has the ultimate say, it would be less expensive to the government to hire clerks or paralegals to accomplish the contracting mission. The judgment of the contracting officer, the person actually signing the contract, should be respected by management and management should encourage a culture that empowers the contracting officer.

Undue influence from management can also lead to an inappropriate source selection method. There is pressure applied to management to reduce their unit's average time for procurements. This can lead to pressure from management to the contracting officer resulting in the overuse of LPTA. Management should resist this pressure. Our data suggests that LPTA inappropriateness can have a negative effect on contractor performance that leads to less buyer satisfaction. Ultimately the best course of action is to use the source selection method that best suits the requirement.

Recommendation 2: Agencies should establish a standard policy for PALT based on dollar value and source selection method.

Planned PALT is often a result of the internal customer's situation. It may be a requirement that is needed within three weeks or three months, but most everyone wants their requirement fulfilled as quickly as possible. It is important that the contracting officer has the ability to manage the expectations of the customer and that the contracting officer's management supports them on this issue. If planned PALT is less than what the contracting officer believes to be sufficient, there are implications that a fear of a protest will increase. This, in turn, can ultimately have a negative effect on technical evaluation effectiveness and ultimately on the contractor's performance. A possible solution to this is to have an instruction that sets PALT by dollar value and by source selection method. A higher dollar requirement that is best procured using a trade-off approach will take more time and

should be built in to the planned PALT. The contracting officer should have the flexibility to deviate from these predetermined PALT's based on their experience and judgment.

Recommendation 3: Agencies should establish a training program to supplement FAR Part 15 source selection experience.

The competence level of the contracting officer is validly measured in terms of the number of source selections experienced (and not raw years of contracting experience or DAWIA certification level). As the number of source selections conducted increases, the level of fear of protest decreases. Therefore, efforts should be made to increase the number of source selections experienced by contracting officers. Of the 350 survey respondents, it was found that the average years of experience are 13.12 with an average of 18.31 source selection participations. That is just under 1.40 source selections a year. There is no equal alternative to on-the-job-training (OJT), but source selection simulations and scenario-based training could be utilized as an alternative and as a supplement to OJT. If the acquisition community is relying solely on OJT, it can take a contracting officer far too long to gain an adequate level of competence with FAR Part 15 source selections. In addition, when selecting a contracting officer for a source selection, it is important to realize that years of contracting experience and DAWIA certification level do not represent his or her level of competence.

As criticality and importance of the requirement increases, so does the contracting officer's level of a fear of protest. As fear increases, buyer satisfaction can be negatively altered through the inappropriate use of source selection methods and the level at which they effectively communicate with the offerors. Therefore, the criticality and importance of the requirement should be taken into account when assigning a contracting officer to serve as the PCO for the source selection. Perhaps a PCO with greater source selection experience (i.e., which lowers fear of protest) can offset the higher fear of protest associated with more critical requirements.

As a fear of protest increases, the effectiveness of technical evaluations decreases. Recall that this construct encapsulated situations where technical evaluators expressed concerns that (a) they did not have the latitude to say what needed to be said in their evaluations, (b) constraints impeded the ability to write a meaningful evaluation, and (c) an evaluation factor or its definition needed to be changed after receipt of proposals. This should be cause for alarm since the purpose of a source selection is to attain a needed performance level outcome at a reasonable price/cost while mitigating risk. Technical evaluators via the contracting officer should have the latitude and the freedom to halt a source selection to ensure the customer and the tax payer are getting the best contracted outcome (i.e. value) for the invested dollars; though this recommendation is time consuming and is often

not an option. Evaluators, however, can reduce the risk of this occurring by becoming part of the crafting of Section M criteria. Is a FAR Part 15 full trade-off source selection too cumbersome to ensure we are getting the best requirement outcome? Is the transaction cost of full trade off too high? It may be that the acquisition rules on evaluations and the protest implications of them are too strict and FAR part 15 may need another reevaluation to allow for more flexibility. Our research suggests that as a contracting officer's fear of a protest increases, there is a decrease in technical evaluation effectiveness leading to a decrease in contractor performance and less buyer satisfaction.

Recommendation 4: The DAU should establish a prerequisite online training program for technical evaluation team members.

Additional training for the technical evaluators and for the technical evaluation team is required to increase their level of competence within the evaluation process. The evaluation process has many people that are not necessarily familiar with the rules that govern this process, and it is ultimately the responsibility of the contracting officer to ensure that the technical team is aware and its members are sufficiently trained to handle the evaluation process. The contracting officer should not be solely responsible to train the technical evaluators, and all people involved in the process should have a minimum training requirement that educates them on the process. All members involved in the technical evaluation process should have a minimum uniform standard of training. A DOD or a DAWIA certification could give the contracting officer the confidence that the technical evaluation team has the proper level of knowledge to carry out the evaluation function. If the contracting officer is comfortable with the level of knowledge then he or she can focus on guiding and advising the technical evaluators and spend less time elevating their baseline knowledge of the process. This can reduce the fear a contracting officer has of a protest and increase the effectiveness of technical evaluations. This can, in turn, lead to increased contractor performance and buyer satisfaction.

E. LIMITATIONS OF THE STUDY

This study had several limitations. First, this study was limited to the Navy's acquisition workforce. Thus, while the fear of a protest phenomenon has been discussed in the context of all Federal contracting, these study results may not be generalized beyond the U.S. Navy. Respondents were asked to answer questions that reflected only their most recent completed FAR Part 15 source selection above $150,000 in which they participated. On certain questions, respondents provided estimated responses. For example, a respondent stated that a GS-15 Supervisor spend about 10 percent of one year's time dedicated to the source selection. It may be difficult for respondents to estimate accurate times; therefore, these estimated responses may not be precise. However, these estimates were useful in establishing

a benchmark to understand the monetary cost incurred to avoid a protest. Activity-based costing using a database (i.e., the Navy's Standard Labor Data Collection and Distribution Application(SLDCADA)) to retrieve data that captured the amount of time a government employee worked on a particular source selection could reveal a more accurate monetary cost to avoid a protest.

Additionally, contracting officers might not have a true sense of buyer satisfaction. Customers (end-users) may not share their satisfaction or dissatisfaction with a Contractor to the contracting officer unless there are significant problems. If the problems are minor and can be worked out with the contracting officer representatives (COR) or customer, the contracting officer might not have knowledge of the situation. Secondly, this research was exploratory. The survey length was a chief concern, which we suspect resulted in a low response rate. Some of the acquisition strategy variables relied on single indicators (e.g., dissatisfaction with discussions, appropriateness of source selection method and etc.) Finally, the responses from the survey were subjected to the problems associated with self-reports in organizational research such as common method bias (Podsakoff & Organ, 1986).

F. AREAS FOR FURTHER RESEARCH

This research only focused on a few factors associated with fear of protest. According to the models' low adjusted R-square values; there are other, unexplored factors that contribute to the fear of protest. Because of time and survey constraints, this research was not able to examine all possible factors. Therefore, it is recommended that future research in the below areas be done to enhance our understanding of the causes and effects of a fear of protest.

1. Risk Tolerance

There could be a relationship between a person's level of risk tolerance and the level of fear. If a person is risk-averse, that person will do certain actions to reduce the risk. In terms of a protest, a risk-averse person may have more concern of a protest. It is possible that the risk averse person would change the uncertainty of having a protest to the certainty of not having a protest. If a person has a high risk tolerance, then that person is willing to accept risks. That person might not be as concerned about a protest. A protest to that person "is the cost of doing business." Agencies should balance a person's level of risk tolerance against the procurement. Agencies can lower transaction costs by accepting more risk and by assessing the risk tolerance of the team members to ensure appropriate risk comfort levels are appropriate for the requirement. If the procurement has a low risk of protest, a high-risk tolerance person should handle the procurement. The same is true for procurement with a high risk of protest; a risk-averse person should handle the

procurement. The risk-averse person could take the extra time and resources to ensure the source selection is sound.

2. Previous Experience with a Protest

Fear is a natural reaction to an unknown threat. From the data, contracting officers have experienced only an average of 1.96 protests throughout their career. Many contracting officers never experience a protest. Contracting officers understand the general repercussions of a protest through press accounts, GAO reports, and interaction with those who have experienced one. When contracting officers experience a protest, their view of the protest process can change. It is a logical conclusion that if a contracting officer has experience with protest, they may be less fearful of a protest. However, it is possible that having experienced a protest, the contracting officer might be more inclined to alter acquisition strategies to avoid the painful experience of additional work, shame, and career repercussions. The implication is for agencies to ensure their contracting officers have personal experience in dealing with a protest. Requiring contracting officers to have personal experience could be a difficult task because the rational thought is to prevent a protest from happening. If an agency has a protest, the contracting officers with more experience of a bid protest should actively mentor and engage less experience contracting officers in the protest adjudication process. Instead of having solely the experienced contracting officer, or the assigned procuring contracting officer, other contracting personnel could be engaged in the protest as well. This mentorship could be structured as an apprenticeship. Further, given the way the internet can close the geographic divide, apprentice contracting personnel could be involved regardless of physical separation from the protested contracting activity. The additional contracting personnel on the protest adds additional cost, but the benefit of gaining firsthand knowledge and experience could outweigh the costs for the agency. Currently, government agencies—more specifically, contracting activities within them—generate a plethora of source selection experience. However, that experience is not systematically leveraged to more quickly build more vast competence among the entire contracting workforce. Is there a way to learn from others' mistakes, thereby averting repeats?

3. Inappropriate Source Selection Method

There could be numerous reasons why source selection teams used source selection methods that were perceived to be inappropriate. The data shows that 13 out of 133 respondents reported that their use of LPTA was to some degree inappropriate. Additionally, 10 respondents out of 174 reported that their use of a full trade-off was to some degree inappropriate. Additional research is needed to narrow down the specific causes of the inappropriateness of the source selection method. It

could have been solely because of fear of protest, time constraints, guidance from senior management on the best source selection to use for that particular procurement, or a combination thereof. There is the possibility that the contracting officer's personal perspective could have played a role in determining whether the source selection used was appropriate or not. If there are systematic circumstances on why contracting officers are using LPTA or trade-off inappropriately, agencies should explore and implement measures to reduce the circumstances that contribute to inappropriate use. Possible reasons for inappropriate use are:

- To avoid a protest
- To avoid high transaction costs associated with a full trade-off
- Lack of experience with full trade-offs
- A lack of understanding of the true complexity of the requirement

If some of the aforementioned reasons are why inappropriate source selections are used, this could be fuel for further reform FAR Part 15. Perhaps strict rules are dissuading source selection teams from using the most valuable sourcing tool available to them (i.e., full trade-off). Perhaps the complexity of discussions causes source selection teams to forego gaining further insight into offerors' proposals.

4. Awarding on Initial Proposals

According to Mr. Gordon, "Contracting officers prefer to make award based on initial proposals, rather than to conduct discussions, because they fear that discussions with offerors are a legal minefield, such that conducting discussions will increase the likelihood of a bid protest and improve the protester's chances of prevailing if a protest is filed." (Gordon, 2013, p. 37) This research did not examine the likelihood, significance, or magnitude of the relationship between fear of protest and award of contracts based on the initial proposal. Awarding contracts based on initial proposals could have secondary and tertiary effects. There could be a significant link between fear of protest to awarding contracts from initial proposals. That link could extend to the source selection method fit, and then to the Contractor Performance, which could ultimately have an effect on buyer's satisfaction. If there is a significant relationship of fear of protest and the award of initial proposals, then contracting agencies should reduce the practice because discussions are beneficial to the contractor and the agency, which would be beneficial to the buyer.

G. SUMMARY

In conclusion, fear of the real or perceived consequences of receiving a bid protest exists. U.S. Navy contracting officers have some concern of protests and this

can be linked to certain consequences on acquisition strategies. However, the fear of protest appears not to be a substantial issue in the Navy. Across five survey questions, the average score was a 4.08 (just beyond the middle) on a one to seven point scale. The score would indicate that, on average, the respondents fell between neither “disagree nor agree” and “somewhat agree.” There are, however, instances where aspects of acquisition strategies are altered and this behavior is statistically linked to the fear of protest. Given the low r-squared values, however, factors other than a fear of protest are also culprits. Further research is needed to ascertain these other culprits, then compare the relative effects of fear of protest among other factors. Nonetheless, there is enough qualitative and quantitative empirical evidence to suggest that fear of protest can impact what would otherwise be prudent business decisions. The greatest concerns are a few instances of inappropriate uses of LPTA and the reduced technical evaluation effectiveness attributed to fear of protests. If fear waters down the source selection, hindering its ability to distinguish between the true value of offers, then contracting officers must ask themselves why go through the trouble of a best-value source selection? Could contracting officers simply award to the low bidder? To what extent is the set of stringent source selection rules driving the acquisition team to this result by default (i.e., regardless of source selection method actually employed)? Thus, for the sake of stringent, fairness-based rules, contracted outcomes can be compromised. Whether the tradeoff is prudent remains to be determined. Further research is needed to ascertain these other culprits, then compare the relative effects of fear of protest among other factors.

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APPENDIX A. SURVEY INSTRUMENT

Bid Protest

There are 115 questions in this survey

Consent

[]

By clicking on the "Yes" button, I am acknowledging that I have read and understand this information, that I understand the nature and purpose of this study – including its risks and benefits, and that I agree to voluntarily participate in this online survey. I also understand that I may discontinue at any time simply by exiting this website.

This survey meets the requirements of OPNAV 5300.8C and does not require a formal RCS number since it meets the criterion of a task analysis. It has been reviewed and approved by the Navy Survey Review Program Manager. *

Please choose only one of the following:

- ○ Yes
- ○ No

Group 1

On a scale of 1 to 7, where 1 represents "Strongly agree" and 7 represents "Strongly disagree", rate the following statements.

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

On a scale of 1 to 7, where 1 represents "Strongly disagree" and 7 represents "Strongly agree", rate the following statements.

At some point during the development of the acquisition strategy or the source selection process, I worried about recieving a bid protest. *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither diagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

[]I was concerned that the contract award would be protested. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]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. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]Receiving a bid protest would have been among the worst things that could happen. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

Group 2

On a scale of 1 to 7, where 1 represents "Not at all concerned" and 7 represents "Extremely concerned", rate the following.

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

On a scale of 1 to 7, where 1 represents "Not at all concerned" and 7 represents "Extremely concerned", rate the following.

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? *

Please choose only one of the following:

- ○ 1 Not at all concerned
- ○ 2
- ○ 3
- ○ 4 Concerned
- ○ 5
- ○ 6
- ○ 7 Extremely concerned

[]

During the development of the acquisition strategy and throughout proposal evaluation, to what extent was at least one other member of the source selection team concerned that an offeror might protest the contract award? *

Please choose only one of the following:

- ○ 1 Not at all concerned
- ○ 2
- ○ 3
- ○ 4 Concerned
- ○ 5
- ○ 6
- ○ 7 Extremely concerned

Group 3

On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

I was empowered to make required decisions throughout the source selection. *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither diagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

[]I was trusted that the decisions I made throughout the source selection would be appropriate. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

My management supported me on the decisions I made during the source selection. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

If I disagreed with an aspect of a legal opinion/review, I had the latitude to deviate from it. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

I had to change documents generated during the source selection to correspond with reviewers. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

I might as well not have a warrant since my decisions were overridden by reviewers. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

Group 5

On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

The milestones for awarding this contract were too aggressive. *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither disagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

[]I was not rushed to award this contract. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

I had sufficient time to get this contract awarded. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]At least once, a technical evaluator was required to change the wording of their technical evaluations. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

At least one technical evaluator expressed concern about not being able to say what needs to be said in the technical evaluation. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

At least one technical evaluator was concerned that the constraints imposed on their evaluations impeded his/her ability to write a meaningful evaluation. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

The technical evaluators believed that the quality of their evaluations could not have been better. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

If there were no Federal Acquisition Regulations, no source selection policy, and no threat of a bid protest, the quality of the technical evaluations would have been the same. *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither disagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

[]Upon evaluation of proposals, at least one technical evaluator expressed a need to change at least one evaluation criterion or its definition. *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither disagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

[]As a portion of the customer's total annual spending amount, the dollar value of this requirement was high. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

This requirement was important for the good operation of our customer's organization. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

This requirement supported a core competency of our customer's organization. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

Compared to other purchases for this customer, this requirement was important. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

An unsuccessful outcome of the RFP would have had only minor consequences to our customer. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither disagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

Group 6a

The next five questions refer to the contractor that was awarded a contract resulting from the selected source selection. For a multiple-award IDIQ, select the contractor that received the first delivery/task order award and answer with respect to that delivery/task order.

On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

The next five questions refer to the contractor that was awarded a contract resulting from the selected source selection. For a multiple-award IDIQ, select the contractor that received the first delivery/task order award and answer with respect to that delivery/task order. On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

Our customer regrets the decision to do business with this contractor. *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither diagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

[]Overall, our customer is very satisfied with this contractor. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

Our customer is very pleased with what the contractor does for them. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

Our customer is not completely happy with this contractor. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

If we had to do it all over again, we would still choose to use this contractor. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

Group 6b

The next seven questions refer to the contractor and contract or delivery/task order used to answer the previous five questions. On a scale of 1 to 7, where 1 represents "needs improvement" and 7 represents "superior performance", rate the following.

[]

The next seven questions refer to the contractor and contract or delivery/task order used to answer the previous five questions. On a scale of 1 to 7, where 1 represents "needs improvement" and 7 represents "superior performance", rate the following.

Product/service quality per specifications *

Please choose only one of the following:

- ○ 1 Needs improvement
- ○ 2
- ○ 3
- ○ 4 Adequate performance
- ○ 5
- ○ 6
- ○ 7 Superior Performance

[]Delivery performance per specifications *

Please choose only one of the following:

- ○ 1 Needs improvement
- ○ 2
- ○ 3
- ○ 4 Adequate performance
- ○ 5
- ○ 6
- ○ 7 Superior Performance

[]Product/service consistently meets customer expectations *

Please choose only one of the following:

- ○ 1 Needs improvement
- ○ 2
- ○ 3
- ○ 4 Adequate performance
- ○ 5
- ○ 6
- ○ 7 Superior Performance

[]

Responsiveness to requests for changes *

Please choose only one of the following:

- ○ 1 Needs improvement
- ○ 2
- ○ 3
- ○ 4 Adequate performance
- ○ 5
- ○ 6
- ○ 7 Superior Performance

[]Required service and/or technical support *

Please choose only one of the following:

- 1 Needs improvement
- 2
- 3
- 4 Adequate performance
- 5
- 6
- 7 Superior Performance

[]Non-conformance rate *

Please choose only one of the following:

- 1 Needs improvement
- 2
- 3
- 4 Adequate performance
- 5
- 6
- 7 Superior Performance

[]Overall performance *

Please choose only one of the following:

- 1 Needs improvement
- 2
- 3
- 4 Adequate performance
- 5
- 6
- 7 Superior Performance

Group 7

On a scale of -5 to 5, where -5 represents "completely undesirable" and 5 represents "completely desirable," please rate the extent of desirability associated with each possible consequence of a bid protest.

[]

On a scale of -5 to 5, where -5 represents "completely undesirable" and 5 represents "completely desirable," please rate the extent of desirability associated with each possible consequence of a bid protest.

Increased costs to settle a terminated contract(s). *

Please choose only one of the following:

- ○ -5 Completely undesirable
- ○ -4
- ○ -3
- ○ -2
- ○ -1
- ○ 0 Does not matter
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5 Completely desirable

[]Time delay to the mission. *

Please choose only one of the following:

- ○ -5 Completely undesirable
- ○ -4
- ○ -3
- ○ -2
- ○ -1
- ○ 0 Does not matter
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5 Completely desirable

[]

Embarrassment/shame. *

Please choose only one of the following:

- ○ -5 Completely undesirable
- ○ -4
- ○ -3
- ○ -2
- ○ -1
- ○ 0 Does not matter
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5 Completely desirable

[]Increase in workload to resolve the protest. *

Please choose only one of the following:

- ○ -5 Completely undesirable
- ○ -4
- ○ -3
- ○ -2
- ○ -1
- ○ 0 Does not matter
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5 Completely desirable

[]Career repercussions for making a mistake or omission that caused a bid protest. *

Please choose only one of the following:

- ○ -5 Completely undesirable
- ○ -4
- ○ -3
- ○ -2
- ○ -1
- ○ 0 Does not matter
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5 Completely desirable

Group 8

In the event of a bid protest please rate the probability that each consequence might occur.

[]

In the event of a bid protest please rate the probability that each consequence might occur.

Increased costs to settle a terminated contract(s). *

Please choose only one of the following:

- ○ 0%
- ○ 10%
- ○ 20%
- ○ 30%
- ○ 40%
- ○ 50%
- ○ 60%
- ○ 70%
- ○ 80%
- ○ 90%
- ○ 100%

[]Time delay to the mission. *

Please choose only one of the following:

- ○ 0%
- ○ 10%
- ○ 20%
- ○ 30%
- ○ 40%
- ○ 50%
- ○ 60%
- ○ 70%
- ○ 80%
- ○ 90%
- ○ 100%

[]Embarrassment/shame. *

Please choose only one of the following:

- ○ 0%
- ○ 10%
- ○ 20%
- ○ 30%
- ○ 40%
- ○ 50%
- ○ 60%
- ○ 70%
- ○ 80%
- ○ 90%
- ○ 100%

[]Increase in workload to resolve the protest. *

Please choose only one of the following:

- ○ 0%
- ○ 10%
- ○ 20%
- ○ 30%
- ○ 40%
- ○ 50%
- ○ 60%
- ○ 70%
- ○ 80%
- ○ 90%
- ○ 100%

[]

Career repercussions for making a mistake or omission that caused a bid protest. *

Please choose only one of the following:

- ○ 0%
- ○ 10%
- ○ 20%
- ○ 30%
- ○ 40%
- ○ 50%
- ○ 60%
- ○ 70%
- ○ 80%
- ○ 90%
- ○ 100%

Group 9

On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

On a scale of 1 to 7, where 1 represents "Strongly Disagree" and 7 represents "Strongly Agree", rate the following statements.

Our acquisition strategy was the best means to source our requirement. *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither diagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

[]Our acquisition strategy was the best means to achieve our acquisition objectives. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

It would have been difficult to achieve our goals without the use of our acquisition strategy. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

The source selection method we used (i.e., Low-Price-Technically Acceptable; full-tradeoff; or Price-Past Performance Tradeoff) was the most appropriate for this requirement. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

Our acquisition strategy ensured we selected the optimal offeror. *

Please choose only one of the following:

- 1: Strongly disagree
- 2: Disagree
- 3: Somewhat disagree
- 4: Neither diagree or agree
- 5: Somewhat agree
- 6: Agree
- 7: Strongly agree

[]

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.). *

Please choose only one of the following:

- ○ 1: Strongly disagree
- ○ 2: Disagree
- ○ 3: Somewhat disagree
- ○ 4: Neither diagree or agree
- ○ 5: Somewhat agree
- ○ 6: Agree
- ○ 7: Strongly agree

Group 10

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

During acquisition planning, how many days were planned in the milestones from receipt of a complete requirements package to award of the contract(s): *

Please write your answer here:

[]Number of actual days from receipt of a complete requirements package to award of the contract *

Please write your answer here:

[]Number of people on the source selection team including all advisors, reviewers, full-time participants, and part-time participants: *

Please write your answer here:

[]Absent a risk of a bid protest, in your opinion, how many people ideally should have been on the source selection team: *

Please write your answer here:

[]What source selection method was used? (Select one.) *

Please choose only one of the following:

- ○ Low-Price-Technically-Acceptable
- ○ Price-Past Performance Tradeoff
- ○ Full tradeoff

[]

Rate the appropriateness of each 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.)

LPTA (Lowest Price Technically Acceptable) *

Please choose only one of the following:

- ○ 1: Completely inappropriate
- ○ 2:
- ○ 3:
- ○ 4:
- ○ 5:
- ○ 6:
- ○ 7: Completely appropriate

[]PPT (Price-Past Performance Tradeoff) *

Please choose only one of the following:

- 1: Completely inappropriate
- 2:
- 3:
- 4:
- 5:
- 6:
- 7: Completely appropriate

[]Full Tradeoff *

Please choose only one of the following:

- 1: Completely inappropriate
- 2:
- 3:
- 4:
- 5:
- 6:
- 7: Completely appropriate

[]

On a scale of 1 to 7, where 1 represents "completely satisfied" and 7 represents "completely dissatisfied," rate your 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. *

Please choose only one of the following:

- ○ 1: Completely satisfied
- ○ 2:
- ○ 3:
- ○ 4:
- ○ 5:
- ○ 6:
- ○ 7: Completely dissatisfied

[]Hypothetically if there was no ability to protest, rate the extent that discussions with offerors would have differed, on a scale of 1 to 7, where 1 represents "no difference," and 7 represents "substantial difference." *

Please choose only one of the following:

- ○ 1 No difference
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7 substantial difference

[]Did the RFP advise offerors that the Government intended to award without discussions? *

Please choose only one of the following:

- ○ Yes
- ○ No

[]Did you conduct discussions? *

Please choose only one of the following:

- ○ Yes
- ○ No

[]

On a scale of 1 to 7, where 1 represents "completely inappropriate" and 7 represents "completely appropriate," considering the risk, criticality, dollar value, contribution to the mission, and complexity, rate the appropriateness of awarding a contract without conducting discussions. [If you intended to conduct discussions, select 1]. *

Please choose only one of the following:

- ○ 1: Completely inappropriate
- ○ 2:
- ○ 3:
- ○ 4:
- ○ 5:
- ○ 6:
- ○ 7: Completely appropriate

[]Did offerors make oral presentations? *

Please choose only one of the following:

- ○ Yes
- ○ No

[]

On a scale of 1 to 7, where 1 represents "completely inappropriate" and 7 represents "completely appropriate," considering the risk, criticality, dollar value, contribution to the mission, and complexity, rate the appropriateness of not utilizing oral presentations. [If offerors made oral presentations, select 1]. *

Please choose only one of the following:

- ○ 1: Completely inappropriate
- ○ 2:
- ○ 3:
- ○ 4:
- ○ 5:
- ○ 6:
- ○ 7: Completely appropriate

[]According to your acquisition planning, how many contracts were originally intended to be awarded? *

Please write your answer here:

[]How many contracts were actually awarded? *

Please write your answer here:

Group 10a

During the source selection, how many iterations of each of the following documents were generated?

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

During the source selection, how many iterations of each of the following documents were generated?

Source selection decision document *

Please write your answer here:

[]Comparative assessment/proposal analysis report *

Please write your answer here:

[]Evaluation notices (sum of iterations for all ENs across all offerors) *

Please write your answer here:

[]Source selection plan *

Please write your answer here:

[]Debriefing scripts (sum of iterations for all scripts across all offerors) *

Please write your answer here:

[]Technical evaluations (sum of iterations for all evaluations across all offerors) *

Please write your answer here:

[]Past performance evaluations (sum of iterations for all evaluations across all offerors) *

Please write your answer here:

[]Cost/Price analysis *

Please write your answer here:

[]Color/rating chart *

Please write your answer here:

[]

Evaluation briefing charts for reviewers and SSA *

Please write your answer here:

Group 11

[]

Please refer back to the most-recently completed FAR Part 15 source selection above $150K in which you participated. Answer the questions in this survey pertaining to this selected source selection.

Was the contract award protested? *

Please choose only one of the following:

- ○ Yes
- ○ No

[]

What was the contract type? *

Please choose only one of the following:

- ○ Fixed Price
- ○ Cost Reimbursement
- ○ Time and Materials
- ○ Labor-Hour
- ○ Hybrid (multiple contract types)
- ○ Other

[]What was the total dollar value of the contract/task order/delivery order (including all options)? *

Please write your answer here:

[]Was the requirement set aside for Small Business? *

Please choose only one of the following:

- ○ Yes
- ○ No

[]

What type of supply or service is the contractor providing? *

Please choose only one of the following:

- ○ Service
- ○ Construction
- ○ Supplies/Commodities/Spares
- ○ Weapon System
- ○ Other Capital Equipment

[]For this contract/task order/delivery order, what was the Product Service Code/Federal Supply Class code? This group code is the first digit(s) of the PSC/FSC code.

Please write your answer here:

Group 12

[]

ALMOST DONE!!!

Please refer back to the most recently completed FAR part 15 source selection above 150K in which you participated. Answer the questions pertaining to this source selection.

For the following roles please provide the number of people within that role, their Grade(s)/Rank(s), and the fraction of 1 year's time and effort dedicated to the Source Selection. If no involvement, just skip to the next role.

Format: (# of People;Grade;Fraction of one year's time)

Example #1

For example, if there were 3 contracting officers involved, and a GS 13 spent 3 months of their time to the source selection and two GS 12's spent 4 months of their time, the appropriate response would be:

(3; GS13,GS12,GS12; 25%,33%,33%)

Example #2

If only one GS 12 was involved and spent 6 months on the source selection, the appropriate response would be:

(1; GS12; 50%)

Example #3

If one technical evaluator (GS12) allocated half of his/her time to the source selection for 6 months, insert 25% [= (.5 year)*(.5 time/effort)]. The appropriate response would be:

(1; GS12; 25%)

CONTRACTING OFFICER

Please write your answer here:

[]CONTRACT SPECIALISTS

Please write your answer here:

[]TECHNICAL EVALUATORS

Please write your answer here:

[]COST/PRICE ANALYSTS

Please write your answer here:

[]SUPERVISORS

Please write your answer here:

[]LEGAL

Please write your answer here:

[]PAST PERFORMANCE TEAM

Please write your answer here:

[]

SOURCE SELECTION ADVISORY COUNCIL/NON-LEGAL ADVISORS

Please write your answer here:

[]

SOURCE SELECTION AUTHORITY

Please write your answer here:

[]

FINANCIAL MANAGEMENT

Please write your answer here:

[]

PROGRAM MANAGER/REQUIREMENTS OFFICE

Please write your answer here:

[]

SMALL BUSINESS REPRESENTATIVE

Please write your answer here:

[]CONTRACTED CONSULTANTS/LABOR

Please write your answer here:

[]

Please write your answer(s) here:

OTHER (DESCRIPTION)	
(# of People;Grade;Fraction of one year's time)	

Group 13

DEMOGRAPHICS

LAST PAGE!!!!

[]

LAST PAGE!!

General questions and demographics. Please answer the following questions accordingly.

Throughout your career, how many times have you awarded a task order/delivery order against an IDIQ contract (or a call against a blanket purchase agreement) in order to avoid a protestable competitive procurement? *

Please write your answer here:

[]

Throughout your career, how many times have you sole sourced a requirement in order to avoid a protestable competitive procurement? *

Please write your answer here:

[]Throughout your career, how many times have you found a way to modify an existing contract, order, call, or agreement in order to avoid a protestable competitive procurement? *

Please write your answer here:

[]Throughout your career, how many bid protests have you experienced? *

Please write your answer here:

[]Throughout your career, have you ever experienced a sustained bid protest? *

Please choose only one of the following:

- ○ Yes
- ○ No

[]

How many total years of experience do you have in contracting? *

Please write your answer here:

[]

In how many source selections have you participated throughout your career? *

Please write your answer here:

[]What is the highest level of Acquisition Professional Development Program (APDP) certification that you hold? *

Please choose only one of the following:

- ◯ APDP/DAWIA Level 1
- ◯ APDP/DAWIA Level 2
- ◯ APDP/DAWIA Level 3
- ◯ No APDP or DAWIA Certification

[]

What is the highest level of education that you have attained? *

Please choose only one of the following:

- ◯ High School Diploma / GED
- ◯ Associates
- ◯ Bachelors
- ◯ Masters
- ◯ Doctoral / Professional

[]How many years of experience do you have evaluating contractor performance? *

Please write your answer here:

[]

What is your gender?

Please choose only one of the following:

- ◯ Female
- ◯ Male

[]

We appreciate any comments or feedback you can provide on the topic of contractor protests in government contracting and/or this survey. (optional)

Please write your answer here:

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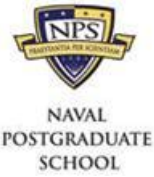
APPENDIX B. SURVEY INVITATIONS



Dear Colleague,

You have been randomly selected to participate in a study of bid Protests. This research is approved by Mr. Elliot Branch, Deputy Assistant Secretary of the Navy for Acquisition and Procurement, and will help us fulfill graduation requirements for our MBA degree.

The purpose of this study is to explore the effects of potential bid protests on acquisition strategies. I respectfully request your assistance to complete the web-based survey located at the hyperlink below. Your participation is completely anonymous.

For your time, you will be eligible to enter a random drawing for a new iPad Mini, 16 GB. To enter, follow the instructions at the end of the survey.

Survey Link: https://survey.nps.edu/714497/lang-en

Your participation is voluntary; however, responses are vital to conducting valid research that represents your knowledge and experience. Please complete the survey no later than 15 FEB 2014. The survey should take no longer than 30 minutes to complete.

We very much appreciate any assistance you can provide. We would be more than happy to share our findings with you once we complete our research. If you have any questions or comments, please feel free to contact myself at jdcaland@nps.edu , or my Principle Advisor, Lt. Col. Timothy Hawkins, PH.D., USAF at timothy.hawkins@wku.edu . Questions about your rights as a research subject may be addressed to the Navy Postgraduate School IRB Chair, Dr. Larry Shattuck, 831-656-2473, lgshattu@nps.edu.

V/R
LCDR Suquon Combs, LT Jason Calandruccio, LT Brian Colbert
MBA Students, Naval Postgraduate School

Principle Advisor: Lt. Col. Timothy Hawkins, PH.D., USAF

Advisor: E. Cory Yoder, Senior Lecturer, Naval Postgraduate School.
****

This research is being conducted through the Naval Postgraduate School's Graduate School of Business and Public Policy. The questionnaire is anonymous; your responses cannot be linked to you. There are not necessarily "right answers."

Procedures. Your extent of participation in this research involves only the completion of this questionnaire.

Synopsis. This is both an anonymous and voluntary questionnaire. (Please note, in order to obtain consistent and usable results, it is important that you answer all questions). It will take most respondents approximately 30 minutes to complete the questionnaire.

Risks and Benefits. Your participation in this research poses no known risk. You will be asked questions pertaining to the latest source selection in which you participated. There will be no personal benefits beyond having contributed your expertise to this important research. Results of the survey will be used responsibly and protected against release to unauthorized persons; however, there is minor risk that data collected could be mismanaged. If desired, you may contact the researcher above if you would like to receive a report of the results of the study.

Confidentiality and Privacy Act. All records of this study will be kept confidential and, since responses are anonymous, your privacy will not be at risk. No information will be publicly accessible which could identify you as a participant. Responses will be maintained by NPS for ten years, after which they will be destroyed.
By taking this survey, I am acknowledging that I have read and understand this information, that I understand the nature and purpose of this study, including its risks and benefits, and that I agree to voluntarily participate in this online survey. I also understand that I may discontinue at any time simply by exiting this website.
Survey Link: https://survey.nps.edu/714497/lang-en

NAVAL
POSTGRADUATE
SCHOOL

Dear Sir or Ma'am,

We recently invited you to participate in a research study of bid protest conducted by the Naval Postgraduate School. We regret to inform you that a raffle for an iPad Mini will not occur due to ethics regulation constraints offered by supplemental legal advice. The research will proceed, and if you have not had a chance to participate, please consider offering your expertise.

Survey Link: https://survey.nps.edu/714497/lang-en

Thank you and we apologize for any inconvenience.

V/R
LCDR Suquon Combs, LT Jason Calandruccio, LT Brian Colbert
MBA Students, Naval Postgraduate School

Principle Advisor: Lt. Col. Timothy Hawkins, PH.D., USAF
Advisor: E. Cory Yoder, Senior Lecturer, Naval Postgraduate School.

NAVAL
POSTGRADUATE
SCHOOL

Dear Colleague,

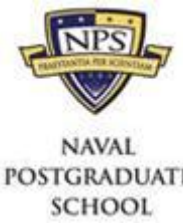
Thank you for your participating in our research study. We need several more responses to achieve the required response rate. For those of you who have not been able to respond just yet, please take a few minutes and complete the survey. For those of you, who have already responded, thank you much!

If you have not served as a Contracting officer or contract specialist on a FAR Part 15 source selection, please reply and let me know. I will remove you from the list. This will improve the accuracy of our response rate.

As a reminder, we are conducting a study examining the effects of potential bid protests. In appreciation of your participation, I will be happy to send you a brief of the study results. Just reply to this message to request the summary report. Again, this report will contain descriptive statistics based on collective responses of all participating organizations; no individual response data will be published. Your response will be completely anonymous. None of the information put in the survey can be traced back to any individual nor to any organization. Thank you for assisting us in this valuable study required for the completion of my degree at the Naval Postgraduate School.

To access the online survey, please click the following link:
https://survey.nps.edu/714497/lang-en (or copy and paste to your Web browser.)

V/R
LT Jason Calandruccio



Dear Colleague,

We apologize for not providing a link in our previous e-mail. Your support is greatly appreciated.

To access the online survey, please click the following link: https://survey.nps.edu/714497/lang-en (or copy and paste to your Web browser.)

We still require several more responses for our survey to achieve a desired response rate for our Deputy Assistant Secretary of the Navy (Acquisition and Procurement) sponsored Naval Postgraduate School MBA Graduate project. If you have not had an opportunity yet, it is not too late. The survey has been extended to **March 11**. It takes about 30 minutes and will not only aid in our graduate requirements, but will further our collective understanding of our contracting workforce. If you would like a copy of our research, we would be more than happy to provide this to you once completed. Just send an e-mail to jdcaland@nps.edu or reply to this e-mail and we will ensure you are on the list to receive it. For those of you, who have already responded, thank you much!

If you will not be able to respond, please let us know why. This may make our response rate more accurate. Also, please inform us if you are not a Contracting officer or specialist with experience in at least one FAR Part 15 source selection; we need to remove you from the distribution list.
Very Respectfully,

LCDR Suquon Combs, SC, USN

LT Jason Calandruccio, SC, USN

LT Brian Colbert, SC, USN

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APPENDIX C. ENDORSEMENT BY DASN (AP)

DEPARTMENT OF THE NAVY
OFFICE OF THE ASSISTANT SECRETARY
(RESEARCH, DEVELOPMENT AND ACQUISITION)
1000 NAVY PENTAGON
WASHINGTON DC 20350-1000

JUL 19 2013

FIRST ENDORSEMENT on Naval Postgraduate School ltr of 06 Jun 2013

From: Deputy Assistant Secretary of the Navy Acquisition and Procurement
To: Navy Personnel Research, Studies, and Technology (NPRST) (PERS-14)

Subj: REQUEST FOR APPROVAL OF NAVY PERSONNEL SURVEY

1. Forwarded, recommending approval.

Elliott B Branch
Deputy Assistant Secretary of the Navy
Acquisition and Procurement

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APPENDIX D. REGRESSION OUTPUT FROM SPSS VER 22

Regression ANTECEDENTS OF FEAR

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Number of Source Selections, Protest Risk, Dollar Value, Requirement Criticality, PALT Planned, Years of Experience[b]	.	Enter

a. Dependent Variable: FEAR
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.361[a]	.131	.115	7.319

Predictors: (Constant), Number of Source Selections, Protest Risk, Dollar Value, Requirement Criticality, PALT Planned, Years of Experience

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2759.668	6	459.945	8.587	.000[b]
	Residual	18373.021	343	53.566		
	Total	21132.689	349			

a. Dependent Variable: FEAR
b. Predictors: (Constant), Number of Source Selections, Protest Risk, Dollar Value, Requirement Criticality, PALT Planned, Years of Experience

Coefficients: 1

Constructa	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10.995	2.852		3.856	.000
PALT Planned	-.259	.091	-.150	-2.862	.004
Dollar Value	.721	.238	.155	3.032	.003
Requirement Criticality	.431	.135	.167	3.183	.002
Protest Risk	.374	.171	.116	2.190	.029
Years of Experience	.037	.042	.049	.881	.379
Number of Source Selections	-.267	.104	-.142	-2.558	.011

a. Dependent Variable: FEAR

Regression FEAR TO TEE

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: Quality of Evaluation Factors

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.253[a]	.064	.061	4.046

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	390.783	1	390.783	23.869	.000[b]
	Residual	5697.434	348	16.372		
	Total	6088.217	349			

a. Dependent Variable: Technical Evaluation Effectiveness
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.343	.590		27.719	.000
	FEAR	-.136	.028	-.253	-4.886	.000

a. Dependent Variable: Quality of Evaluation Factors

Logistic Regression FEAR to PALT Actual

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	350	100.0
	Missing Cases	0	.0
	Total	350	100.0
Unselected Cases		0	.0
Total		350	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
.000	0
1.000	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			PALT_ACTUAL		Percentage Correct
	Observed		.000	1.000	
Step 0	PALT_ACTUAL	.000	0	145	.0
		1.000	0	205	100.0
	Overall Percentage				58.6

a. Constant is included in the model.
b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.346	.109	10.184	1	.001	1.414

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	FEAR	12.318	1	.000
	Overall Statistics		12.318	1	.000

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	12.454	1	.000
	Block	12.454	1	.000
	Model	12.454	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	462.412[a]	.035	.047

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	11.607	8	.170

Classification Table[a]

			Predicted		
			PALT_ACTUAL		Percentage Correct
	Observed		.000	1.000	
Step 1	PALT_ACTUAL	.000	39	106	26.9
		1.000	35	170	82.9
	Overall Percentage				59.7

a. The cut value is .500

Contingency Table for Hosmer and Lemeshow Test

		PALT_ACTUAL = .000		PALT_ACTUAL = 1.000		
		Observed	Expected	Observed	Expected	Total
Step 1	1	22	19.683	12	14.317	34
	2	17	20.943	23	19.057	40
	3	20	18.313	18	19.687	38
	4	17	15.991	19	20.009	36
	5	10	16.286	30	23.714	40
	6	17	14.323	21	23.677	38
	7	14	13.845	25	25.155	39
	8	14	10.341	17	20.659	31
	9	12	10.715	24	25.285	36
	10	2	4.561	16	13.439	18

Variables in the Equation

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	FEAR	.050	.014	11.996	1	.001	1.051	1.022	1.082
	Constant	-.630	.300	4.419	1	.036	.533		

a. Variable(s) entered on step 1: FEAR.

Regression FEAR to SSMA

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: SSMA
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.059[a]	.003	.001	6.65306

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.021	1	53.021	1.198	.275[b]
	Residual	15403.596	348	44.263		
	Total	15456.617	349			

a. Dependent Variable: SSMA
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	34.050	.969		35.123	.000
	FEAR	-.050	.046	-.059	-1.094	.275

a. Dependent Variable: SSMA

Logistic Regression FEAR HI/LO to LPTA Appropriateness

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	133	38.0
	Missing Cases	217	62.0
	Total	350	100.0
Unselected Cases		0	.0
Total		350	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
Low	0
High	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			LPTA Appropriateness		Percentage Correct
			Low	High	
Step 0	LPTA Inappropriateness	Low	120	0	100.0
		High	13	0	.0
	Overall Percentage				90.2

a. Constant is included in the model.
b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-2.223	.292	57.939	1	.000	.108

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	FEAR_LPTA_USED	6.861	1	.009
	Overall Statistics		6.861	1	.009

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	6.559	1	.010
	Block	6.559	1	.010
	Model	6.559	1	.010

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	78.587[a]	.048	.102

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted		
			LPTA Appropriateness		Percentage Correct
			Low	High	
Step 1	LPTA Inappropriateness	Low	120	0	100.0
		High	13	0	.0
	Overall Percentage				90.2

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FEAR_LPTA_USED	1.542	.632	5.956	1	.015	4.673
	Constant	-3.008	.512	34.493	1	.000	.049

Logistic Regression FEAR HI/LO to T/O Appropriateness

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	174	49.7
	Missing Cases	176	50.3
	Total	350	100.0
Unselected Cases		0	.0
Total		350	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
Appropriate	0
Not Appropriate	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			TRADE-OFF_BINARY		Percentage Correct
			Appropriate	Not Appropriate	
Step 0	TRADE-OFF_BINARY	Appropriate	164	0	100.0
		Not Appropriate	10	0	.0
	Overall Percentage				94.3

a. Constant is included in the model.
b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-2.797	.326	73.751	1	.000	.061

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	FEAR_BINARY_TO	1.835	1	.176
	Overall Statistics		1.835	1	.176

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1.786	1	.181
	Block	1.786	1	.181
	Model	1.786	1	.181

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	74.758[a]	.010	.029

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	.000	0	.

Contingency Table for Hosmer and Lemeshow Test

		TRADE-OFF_BINARY = Appropriate		TRADE-OFF_BINARY = Not Appropriate		
		Observed	Expected	Observed	Expected	Total
Step 1	1	101	101.000	4	4.000	105
	2	63	63.000	6	6.000	69

Classification Table[a]

Observed			Predicted		
			TRADE-OFF_BINARY		
			Appropriate	Not Appropriate	Percentage Correct
Step 1	TRADE-OFF_BINARY	Appropriate	164	0	100.0
		Not Appropriate	10	0	.0
	Overall Percentage				94.3

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	FEAR_BINARY_TO	-.877	.665	1.740	1	.187	.416	.113	1.531
	Constant	-2.351	.427	30.289	1	.000	.095		

a. Variable(s) entered on step 1: FEAR_BINARY_TO.

Regression FEAR HI/LO to Satisfaction with Discussions

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HIGH_FEAR[b]	.	Enter

a. Dependent Variable: DISAT_DISC
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.111[a]	.012	.010	1.710

a. Predictors: (Constant), HIGH_FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.781	1	12.781	4.370	.037[b]
	Residual	1017.779	348	2.925		
	Total	1030.560	349			

a. Dependent Variable: DISAT_DISC
b. Predictors: (Constant), HIGH_FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.087	.130		23.740	.000
	HIGH_FEAR	.382	.183	.111	2.091	.037

a. Dependent Variable: DISAT_DISC

Regression FEAR to Hypothetical Change in Discussions

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HIGH_FEAR[b]	.	Enter

a. Dependent Variable: if there was no ability to protest question
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316[a]	.100	.097	1.93920

a. Predictors: (Constant), HIGH_FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.309	1	145.309	38.641	.000[b]
	Residual	1308.659	348	3.761		
	Total	1453.969	349			

a. Dependent Variable: if there was no ability to protest question
b. Predictors: (Constant), HIGH_FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.723	.147		18.466	.000
	HIGH_FEAR	1.289	.207	.316	6.216	.000

a. Dependent Variable: if there was no ability to protest question

Logistic Regression FEAR to Discussions Held Y/N

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	350	100.0
	Missing Cases	0	.0
	Total	350	100.0
Unselected Cases		0	.0
Total		350	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			Discussions		Percentage Correct
			No	Yes	
Step 0	Discussions	No	0	147	.0
		Yes	0	203	100.0
	Overall Percentage				58.0

a. Constant is included in the model.
b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.323	.108	8.883	1	.003	1.381

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	FEAR	4.356	1	.037
	Overall Statistics		4.356	1	.037

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	4.370	1	.037
	Block	4.370	1	.037
	Model	4.370	1	.037

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	471.834[a]	.012	.017

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted		
			Discussions		Percentage Correct
			No	Yes	
Step 1	Discussions	No	17	130	11.6
		Yes	17	186	91.6
	Overall Percentage				58.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FEAR	.029	.014	4.315	1	.038	1.030
	Constant	-.251	.295	.722	1	.396	.778

a. Variable(s) entered on step 1: FEAR.

Regression FEAR to Oral Pres. Appropriateness

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: ORAL_PRESENTATIONS
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.060[a]	.004	.001	2.09783

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.587	1	5.587	1.269	.261[b]
	Residual	1531.510	348	4.401		
	Total	1537.097	349			

a. Dependent Variable: ORAL_PRESENTATIONS
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.023	.306		16.433	.000
	FEAR	-.016	.014	-.060	-1.127	.261

a. Dependent Variable: ORAL_PRESENTATIONS

Regression FEAR to Resources

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: NUMBER_OF_PEOPLE_ON_SS
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.277[a]	.077	.074	.28028

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.280	1	2.280	29.022	.000[b]
	Residual	27.338	348	.079		
	Total	29.618	349			

a. Dependent Variable: NUMBER_OF_PEOPLE_ON_SS
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.632	.041		15.476	.000
	FEAR	.010	.002	.277	5.387	.000

Regression FEAR Hi/Lo to Resources

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HIGH_FEAR[b]	.	Enter

a. Dependent Variable: NUMBER_OF_PEOPLE_ON_SS
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.257[a]	.066	.063	.28197

a. Predictors: (Constant), HIGH_FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.949	1	1.949	24.513	.000[b]
	Residual	27.669	348	.080		
	Total	29.618	349			

a. Dependent Variable: NUMBER_OF_PEOPLE_ON_SS
b. Predictors: (Constant), HIGH_FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.761	.021		35.509	.000
	HIGH_FEAR	.149	.030	.257	4.951	.000

a. Dependent Variable: NUMBER_OF_PEOPLE_ON_SS

Logistic Regression FEAR to More Resources than needed

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	350	100.0
	Missing Cases	0	.0
	Total	350	100.0
Unselected Cases		0	.0
Total		350	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
0	0
1	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			RESOURCES		Percentage Correct
			0	1	
Step 0	RESOURCES	0	240	0	100.0
		1	110	0	.0
	Overall Percentage				68.6

a. Constant is included in the model.
b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.780	.115	45.909	1	.000	.458

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	FEAR	.774	1	.379
	Overall Statistics		.774	1	.379

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.776	1	.378
	Block	.776	1	.378
	Model	.776	1	.378

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	434.965[a]	.002	.003

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	11.643	8	.168

Contingency Table for Hosmer and Lemeshow Test

		RESOURCES = 0		RESOURCES = 1		
		Observed	Expected	Observed	Expected	Total
Step 1	1	28	24.577	6	9.423	34
	2	27	28.440	13	11.560	40
	3	29	26.675	9	11.325	38
	4	23	24.970	13	11.030	36
	5	25	27.406	15	12.594	40
	6	21	25.763	17	12.237	38
	7	23	26.230	16	12.770	39
	8	25	20.680	6	10.320	31
	9	26	23.663	10	12.337	36
	10	13	11.595	5	6.405	18

Classification Table[a]

			Predicted		
			RESOURCES		Percentage Correct
	Observed		0	1	
Step 1	RESOURCES	0	240	0	100.0
		1	110	0	.0
	Overall Percentage				68.6

a. The cut value is .500

Variables in the Equation

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	FEAR	.013	.015	.773	1	.379	1.013	.984	1.043
	Constant	-1.040	.319	10.608	1	.001	.353		

a. Variable(s) entered on step 1: FEAR.

Regression FEAT to TCI

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: TCI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.318[a]	.101	.099	.32938

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.246	1	4.246	39.135	.000[b]
	Residual	37.755	348	.108		
	Total	42.001	349			

a. Dependent Variable: TCI
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.080	.048		22.505	.000
	FEAR	.014	.002	.318	6.256	.000

a. Dependent Variable: TCI

Regression FEAR to Source Selection Plan

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: TCI4
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.290[a]	.084	.082	.58979

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.147	1	11.147	32.045	.000[b]
	Residual	121.051	348	.348		
	Total	132.198	349			

a. Dependent Variable: TCI4
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.110	.086		12.918	.000
	FEAR	.023	.004	.290	5.661	.000

a. Dependent Variable: TCI4

Regression FEAR to Debriefing Script

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: TCI5
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.280[a]	.078	.076	.75232

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.707	1	16.707	29.519	.000[b]
	Residual	196.964	348	.566		
	Total	213.672	349			

a. Dependent Variable: TCI5
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.729	.110		6.651	.000
	FEAR	.028	.005	.280	5.433	.000

a. Dependent Variable: TCI5

Regression FEAR to Color/Rating Chart

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: TCI9
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.195[a]	.038	.035	.77260

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.221	1	8.221	13.772	.000[b]
	Residual	207.727	348	.597		
	Total	215.948	349			

a. Dependent Variable: TCI9
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.490	.113		4.350	.000
	FEAR	.020	.005	.195	3.711	.000

a. Dependent Variable: TCI9

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: TCI10
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.196[a]	.039	.036	.69098

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.665	1	6.665	13.959	.000[b]
	Residual	166.154	348	.477		
	Total	172.819	349			

a. Dependent Variable: TCI10
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.760	.101		7.548	.000
	FEAR	.018	.005	.196	3.736	.000

a. Dependent Variable: TCI10

Regression FEAR to TCP

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Fear N=270[b]	.	Enter

a. Dependent Variable: Transaction Cost Using Sqrt
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.143[a]	.021	.017	.45284

a. Predictors: (Constant), Fear N=270

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.155	1	1.155	5.631	.018[b]
	Residual	54.957	268	.205		
	Total	56.112	269			

a. Dependent Variable: Transaction Cost Using Sqrt
b. Predictors: (Constant), Fear N=270

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.993	.078		63.838	.000
	Fear N=270	.009	.004	.143	2.373	.018

a. Dependent Variable: Transaction Cost Using Sqrt

Logistic Regression FEAT to AC

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	350	100.0
	Missing Cases	0	.0
	Total	350	100.0
Unselected Cases		0	.0
Total		350	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
0	0
1	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			Binary...if more were awarded		Percentage Correct
			0	1	
Step 0	Binary...if more were awarded	0	331	0	100.0
		1	19	0	.0
	Overall Percentage				94.6

a. Constant is included in the model.
b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-2.858	.236	146.737	1	.000	.057

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	FEAR	.863	1	.353
	Overall Statistics		.863	1	.353

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.872	1	.350
	Block	.872	1	.350
	Model	.872	1	.350

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	146.790[a]	.002	.007

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	3.247	8	.918

Contingency Table for Hosmer and Lemeshow Test

		Binary...if more were awarded = 0		Binary...if more were awarded = 1		
		Observed	Expected	Observed	Expected	Total
Step 1	1	33	32.751	1	1.249	34
	2	38	38.338	2	1.662	40
	3	37	36.270	1	1.730	38
	4	34	34.220	2	1.780	36
	5	36	37.853	4	2.147	40
	6	36	35.816	2	2.184	38
	7	38	36.641	1	2.359	39
	8	29	29.027	2	1.973	31
	9	33	33.493	3	2.507	36
	10	17	16.591	1	1.409	18

Classification Table[a]

Observed			Predicted		
			Binary...if more were awarded		Percentage Correct
			0	1	
Step 1	Binary...if more were awarded	0	331	0	100.0
		1	19	0	.0
	Overall Percentage				94.6

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	FEAR	.029	.031	.857	1	.355	1.029	.968	1.094
	Constant	-3.445	.699	24.276	1	.000	.032		

a. Variable(s) entered on step 1: FEAR.

Regression FEAR to CO AUTH

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FEAR[b]	.	Enter

a. Dependent Variable: Contracting officer Authority
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.090[a]	.008	.005	6.005

a. Predictors: (Constant), FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.573	1	102.573	2.844	.093[b]
	Residual	12550.696	348	36.065		
	Total	12653.269	349			

a. Dependent Variable: Contracting officer Authority
b. Predictors: (Constant), FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.419	.875		30.190	.000
	FEAR	-.070	.041	-.090	-1.686	.093

a. Dependent Variable: Contracting officer Authority

Regression FEAR Hi/Lo to CO AUTH

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HIGH_FEAR[b]	.	Enter

a. Dependent Variable: Contracting officer Authority
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.006[a]	.000	-.003	6.030

a. Predictors: (Constant), HIGH_FEAR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.424	1	.424	.012	.914[b]
	Residual	12652.844	348	36.359		
	Total	12653.269	349			

a. Dependent Variable: Contracting officer Authority
b. Predictors: (Constant), HIGH_FEAR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.081	.458		54.709	.000
	HIGH_FEAR	-.070	.645	-.006	-.108	.914

a. Dependent Variable: Contracting officer Authority

Regression TEE/SSMA to CP

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Source Selection Method Appropriateness, Tech Eval Effectiveness[b]	.	Enter

a. Dependent Variable: Contractor Performance
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.350[a]	.123	.118	7.671

a. Predictors: (Constant), Source Selection Method Appropriateness, Tech Eval Effectiveness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2854.174	2	1427.087	24.255	.000[b]
	Residual	20416.423	347	58.837		
	Total	23270.597	349			

a. Dependent Variable: Contractor Performance
b. Predictors: (Constant), Source Selection Method Appropriateness, Tech Eval Effectiveness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.765	2.245		7.912	.000
	Tech Eval Effectiveness	.327	.102	.167	3.209	.001
	Source Selection Method Appropriateness	.328	.064	.268	5.140	.000

a. Dependent Variable: Contractor Performance

Regression LPTA Appr to CP

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	LPTA Appropriateness (4 or less) when LPTA used[b]	.	Enter

a. Dependent Variable: CP
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.222[a]	.049	.042	7.84804

a. Predictors: (Constant), LPTA Appropriateness (4 or less) when LPTA used

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	419.203	1	419.203	6.806	.010[b]
	Residual	8068.526	131	61.592		
	Total	8487.729	132			

a. Dependent Variable: CP
b. Predictors: (Constant), LPTA Appropriateness (4 or less) when LPTA used

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.819	.766		44.156	.000
	LPTA Appropriateness (4 or less) when LPTA used	-4.355	1.669	-.222	-2.609	.010

a. Dependent Variable: CP

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	LPTA_Appropriateness[b]	.	Enter

a. Dependent Variable: CP
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.238[a]	.057	.049	7.81857

a. Predictors: (Constant), LPTA_Appropriateness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	479.698	1	479.698	7.847	.006[b]
	Residual	8008.032	131	61.130		
	Total	8487.729	132			

a. Dependent Variable: CP
b. Predictors: (Constant), LPTA_Appropriateness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.794	2.626		9.821	.000
	LPTA_Appropriateness	1.237	.442	.238	2.801	.006

a. Dependent Variable: CP

Regression CP to BS

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Contractor Performance[b]	.	Enter

a. Dependent Variable: BS
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.665[a]	.442	.441	2.61931

a. Predictors: (Constant), Contractor Performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1893.312	1	1893.312	275.962	.000[b]
	Residual	2387.546	348	6.861		
	Total	4280.857	349			

a. Dependent Variable: BS
b. Predictors: (Constant), Contractor Performance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.506	.585		11.121	.000
	Contractor Performance	.285	.017	.665	16.612	.000

a. Dependent Variable: BS

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