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**NAVAL
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MONTEREY, CALIFORNIA

JOINT APPLIED PROJECT

**PRICE ANALYSIS ON COMMERCIAL
ITEM PURCHASES WITHIN
THE DEPARTMENT OF DEFENSE**

**By: Andrew Redfern,
Erik Nelson, and
Matthew White
September 2013**

**Advisors: Janie Maddox,
Raluca Gera**

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**PRICE ANALYSIS ON COMMERCIAL ITEM PURCHASES
WITHIN THE DEPARTMENT OF DEFENSE**

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Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CONTRACT MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
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PRICE ANALYSIS ON COMMERCIAL ITEM PURCHASES WITHIN THE DEPARTMENT OF DEFENSE

ABSTRACT

Proficiency in completing price reasonableness determinations and documenting the contracting file properly is developed based on experience and completion of required contract pricing courses provided through the Defense Acquisition Workforce Improvement Act (DAWIA) certification process. As there is a wide range of skill levels within the contracting community, it is possible that employees surveyed may not have attended the required contracting pricing courses, or developed the skills required to properly complete price reasonableness determinations.

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LIST OF ACRONYMS AND ABBREVIATIONS

DAWIA	Defense Acquisition Workforce Improvement Act
DFAR	Defense Federal Acquisition Regulation
DoD	Department of Defense
FAR	Federal Acquisition Regulation
FASA	Federal Acquisition Streamlining Act
GAO	Government Accountability Office
GSA	Government Services Administration
IG	Inspector General
IGCE	Independent Government Cost Estimate
KO	contracting officer
KS	contract specialist
KTR	contractor
MFR	memorandum for record
MRR	market research report
PBS	Public Building Service
SAP	simplified acquisition procedures
SAT	simplified acquisition threshold

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I. INTRODUCTION

A. PURPOSE

The purpose of this Joint Applied Project is to conduct research relevant to determination of price reasonableness. The research will include contract file reviews from U.S.DoD installations to determine if the price reasonableness determination was completed, and documented, in accordance with procedures outlined in the Federal Acquisition Regulation (FAR). The research will also include a survey of both Contract Specialists (KS), Contract Officer (KO) personnel, and other personnel such as cost and price analysts. The data collected from the personnel surveys will then be compared with the data collected during the contract file reviews. The resulting data will be reported and potential recommendations will be based on data collected.

The authors expect to receive a wide range of responses to the KO/KS surveys as the spectrum of employee experience will range from less than one year to greater than twenty years. The intent of the research is to assist in determining if there has been any improvement in price reasonableness determination since the 2001 release of the Office of Inspector General report: *Contracting Officer Determinations of Price Reasonableness When Cost or Pricing Data Were Not Obtained*. The authors also intend to determine the gap between KS/KO perception of their ability to complete price reasonableness determinations and the actual documentation contained within the contract files. Finally, the authors expect to identify key areas of weakness in the price reasonableness determination documents and offer recommendations to assist in completing this task in accordance with the FAR.

B. SCOPE AND LIMITATIONS

This project focuses on price reasonableness determination within DoD. The authors will review contract files at various DoD locations to verify if the price reasonableness determination has been performed and documented properly. The contract file assessment will include review of end user documentation, including the Independent Government Cost Estimate (IGCE) and market research, and whether or not the

documentation is substantiated and reflecting the source(s) of data. The file assessment will also include review of the KO/KS procedures, including identification of the procurement type (e.g., supply, service, or construction), the FAR contracting procedures utilized, and the justification used for the price reasonableness determination. The authors seek to identify areas of concern or trends in regards to the proper documentation of price reasonableness. The personnel survey will assist the authors in determining the contracting personnel's perceived level of ability as it relates to completing price reasonableness determinations.

The authors have identified that the data collected through contract file review is limited as only a handful of DoD activities granted approval to review contract files. A possibility exists that the contract files reviewed may not have been complete due to recent changes from hardcopy contract files to electronic paperless contract files. A possibility exists that, in transferring files from hardcopy to electronic, price reasonableness determination documents may have been lost.

Proficiency in completing price reasonableness determinations and documenting the contracting file properly is developed based on experience and completion of required contract pricing courses provided through the Defense Acquisition Workforce Improvement Act (DAWIA) certification process. As there is a wide range of skill levels within the contracting community, it is possible that employees surveyed may not have attended the required contracting pricing courses, or developed the skills required to properly complete price reasonableness determinations. Therefore, the survey results are strictly dependent on the skill level of each survey respondent within the DoD contracting community. Due to the online survey method and timing of the survey release, participation in the survey may be limited. The survey was distributed to select DoD contracting installations on August 13, 2013, and remained open for responses for a two-week period.

C. PROJECT ORGANIZATION

Chapter I provides the introduction to the Joint Applied Project. This chapter identifies the purpose and overall scope of the research. The chapter also outlines the

limitations in the data collection methods. Finally, the chapter concludes with the research questions to be addressed.

Chapter II provides background information regarding price reasonableness determination. The authors have identified key articles and have provided summary information from these articles and identified their significance.

Chapter III identifies the methodology used for collection of data. This chapter outlines the contract file review and survey methods. Included in the chapter are the process utilized in file selection and

Chapter IV: Research Results and Analysis chapter will first present the benchmarks results from the DoD IG report No. D-2001-129 of 2001, followed by our results and an analysis of the comparison of the two.

Chapter V: Conclusions which summarizes our findings and presents a list of recommendations with justifications.

D. RESEARCH QUESTIONS

This project addresses the following research questions:

1. To what extent do pricing memos deviate from FAR/DFARS requirements?
2. To what extent do pricing memos document the type of price analysis used in pricing formulation?
3. Do pricing memos refer to market research information that improves the buyers' understanding of pricing in the marketplace?
4. Do pricing memos deviations differ by the same characteristics?
5. What are the consequences of pricing memo inaccuracies?
6. Why do pricing memos lack sufficient justification/supporting information?
7. What methods of pricing effectiveness could be derived with proper price analysis?

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II. LITERATURE REVIEW

This chapter provides an overview of the literature and studies reviewed addressing issues with price reasonableness determinations. The authors have reviewed IG Audit reports, DoD education directives, and journal reviews of price reasonableness determination shortcomings. The review will assist in providing a foundation for how price reasonableness determinations should be performed and the steps DoD has taken in order to ensure proper completion of price reasonableness determinations in all contract actions. Section I begins with a review of several Inspector General (IG) reports regarding failures in determining price reasonableness. Section II will provide an overview of required elements utilized in price reasonableness determinations. Finally, Section III will review several education based articles that outline steps that need to be taken to improve price reasonableness determinations.

A. SECTION I: SUMMARY OF INSPECTOR GENERAL REPORTS

Over the last two decades, the Department of Defense has becoming increasingly aware of failures to properly apply the cost and price analysis techniques outlined in the FAR. Failure by the contracting community to implement these FAR standards has been the result of inaccurate/incomplete Independent Government Cost Estimates (IGCE), untimely completion of acquisition requirements, and limited competition. Deficient fair and reasonable price analysis has resulted in significant overpayment for contracted supplies, services, and construction projects by the DoD. The following will review several cases in which the Inspector General has audited DoD contracting files and found price reasonableness determinations to be unsupported or altogether non-existent.

In a 2001 report intended for the Under Secretary of Defense for Acquisitions, Technology, and Logistics (AT&L), the Inspector General outlined the current state of price reasonableness determinations within the Department of Defense. The IG reviewed 145 contracting actions across the DoD. The DoD IG report surveyed 145 contracts sorted as Commercial and Noncommercial (Department of Defense, 2001, p.1). The average commercial contract value being reviewed was \$7,643,396, while the

noncommercial contract average was \$2,734,800. The results of the IG report indicated that contracting officials utilized questionable practices in determining fair and reasonable price and failed to properly document the contracting files of their findings. Department of Defense (2001) Report No. D-2001-129 states the following:

Contracting officials lacked valid exceptions from obtaining certified cost or pricing data, and failed to obtain required data in 46 (32 percent) of the 145 contracting actions. In addition, price analysis documentation did not adequately support price reasonableness in 124 (86 percent) of those 145 actions. (p. i)

This lack of proper documentation, and invalid use of exceptions to obtaining certified cost or pricing data, appears to be prevalent throughout the DoD. In this case, the IG has recommended that the Under Secretary of AT&L reinforce the importance of reducing the circumstances that lead to urgent contracting needs. This includes improved lead times, better use of manpower, and utilization of the Defense Contracting Audit Agency for pricing support (Department of Defense, 2001). While this report was completed in 2001, the contracting community as a whole has continued to have difficulty applying the required cost and price analysis techniques outlined in the FAR.

The DoD has shown a lack of due diligence in the completion of price reasonableness determinations in both supply and service contracts throughout the contract life-cycle. The IG has completed reports outlining issues with spare parts purchases. These reports indicate that the DoD has continually overpaid for spare parts due to the sole source nature. According to Joliffe (2006), “the Defense Logistics Agency...needs to seek a voluntary refund of about \$2.6 million for overpriced parts...” (p.3). Without utilizing proper cost or pricing data, the government would continue to overpay \$31.8M for unreasonably priced parts in the remaining option years. In an effort to reduce overpayments for sole source spare parts, Shay D. Assad, Defense Pricing Director, implemented new pricing policies to be utilized in exercising option years (Director, 2011). Assad initiated policy that contracting officers will make written determinations prior to exercising options pursuant to FAR 17.207. This applies to Firm Fixed Price contracts containing spare parts, and requires that cost or price analysis be conducted specifically for the spare parts. The contract files shall also contain the

documented findings. While failure to properly apply and document price reasonableness determination is widespread in the procurement of supplies, it also occurs in the acquisition of services.

As stated previously, incomplete/inaccurate IGCEs, untimely completion of requirements, and limited competition are elements leading to improper or incomplete fair and reasonable price determinations. The 2010 IG report, *Advisory and Assistance Services Contracts in Support of the Air Force Combat Search and Rescue Helicopter*, reviewed four service task orders issued by the U.S. Army Communications Electronics Command (CECOM) and Air Force contracting officials. It was found that CECOM and Air Force contracting officials did not obtain competition or ensure fair and reasonable prices when awarding and administering service task orders for the requirement. This occurred based on time limitations during proposal analysis, an inadequate IGCE, inadequate price and technical analysis, and no contractor surveillance.

Additionally, the contractor was allowed to perform personal services on three task orders, and an inherently governmental function on another. As a result of these failures, there was no way for the Air Force to confirm that best value was obtained on a \$32.7 million contract. In an attempt to address the numerous failings, new policy was created by the command. The new policies required more detailed IGCE's to include the basis for determination, signature and date of the responsible party. Also included were detailed instructions regarding performance of inherently governmental functions. For solicitations, formal time periods were created based on dollar amount, to ensure that sufficient time for responses would be given.

While issues are often seen in supply and service pricing, the IG has also found pricing failures in contracts completed for construction projects. Approximately \$30.8B in funding from the American Recovery and Reinvestment Act of 2009 was utilized for infrastructure upgrades ("Track the money", 2012). These infrastructure upgrade included construction projects such as conversion of federal buildings into high-performance green buildings, construction of federal buildings, courthouses, and land ports of entry. In the Painter (2013) report, it was found that GSA Public Building Service (PBS) provided bidders with pricing information and did not have adequate

pricing completion for eight out of ten Construction Manager as Constructor (CMc) contracts (p. 3). Providing exact pricing data is in violation of FAR 36.204, which states that only estimated pricing ranges are allowed. Normally, for CMc contracts, the bidders provide an Estimated Cost of Work (ECW) and a Construction Contingency Allowance (CCA). Since PBS provided prospective bidders with the ECW and CCA during the solicitation phase, cost or pricing could no longer be utilized as an evaluation factor. Due to this error, PBS did not have an adequate basis for determining fair and reasonable pricing.

The above examples from various IG reports demonstrate that completing and documenting cost and price analysis is severely lacking across the DoD. Contracting personnel need to be aware of the techniques outlined in the FAR for determining fair and reasonable price. Contracting personnel must also be aware of how each technique is utilized and the appropriate situation for each technique.

B. SECTION II: PRICE REASONABLENESS DETERMINATIONS METHODS

Fair and reasonable price determinations must be completed and documented for any contract action that involves cost or pricing. Several reports have been completed that outline some of the most important elements of price reasonableness determinations. These reports include topics covering the utilization of personal judgment vs. market-based pricing, identifying if cost or price analysis should be utilized, and contracting when cost or pricing data are not obtained.

To begin, it is important to understand that determining fair and reasonable pricing is not a judgment call to be made by contracting personnel. J.J. Battle, Jr. emphasizes in his report, *Fair and Reasonable Price Justification: Judgment or Market-Based?*, that price reasonableness determinations must be based on market-based elements, such as supply and demand, rather than simple subjective judgment calls. Battle indicates that making use of market-based elements is important in all contracting actions, including sole-source purchases. In order to prove his point, Battle utilizes contract prices received for efforts in the aftermath of Hurricane Katrina. It was found

that many goods and services procured during this time period were not reasonably priced. Based on prices received by GSA, and compared to the US Forest Service, it was determined that the Government overpaid for many emergency services. Battle, FAR 13.106-3(a)(1), and 15.305-(a)(1), indicate that comparison of prices received in response to the solicitation is the preferred method for determining fair and reasonable price. Battle also states that prices received in response to a solicitation are considered reasonable with up to a 20% difference between the low bidder and other bidders. If the difference is above 20%, then the price difference can no longer be explained by profit, overhead, or other factors. Although comparison with competitor pricing is the preferred method of determining price reasonableness, this method is not always available since competition might not exist (such as runway lights).

In cases where only one bid/quote is received in response to a solicitation, it is not possible to utilize the method of comparison of quotes received in response to the solicitation for evaluating price reasonableness. Battle recommends in such situations that discussions occur between the government and the bidder. Opening discussions will allow for the government to determine what market factors the bidders took into consideration when developing their proposal. Understanding the market will allow the government to hone the IGCE and make a proper fair and reasonable price determination. FAR 13.106-3(a)(2) also recommends that the following methods be considered when utilizing Simplified Acquisition Procedures:

- Comparison of the proposed price with prices found reasonable on previous purchases.
- Comparison to current price lists, catalogs, or advertisements.
- A comparison with similar items in a related industry
- Utilizing the contracting officer's personal knowledge of the item being purchased
- Comparison to an independent Government estimate
- Any other reasonable basis.

It is the contracting officer's responsibility to determine which of the above methods is most appropriate for the acquisition and to ensure that the method used is documented and verifiable.

Utilizing the price analysis methods described previously requires that contracting personnel be diligent in verifying information and providing clear documentation. M.F. Jaggard identified key issues noted in DoD IG audits regarding fair and reasonable price determinations that need to be addressed. These issues include the following:

- Market research reports that were incomplete or fully omitted
- Unverified catalog pricing
- Unjustified prior pricing utilized for comparison
- Prices listed as competitive when no competition was present
- Acceptance of unsupported costs
- Failure to make efforts to promote adequate competition
- Improper contract file documentation

Jaggard indicated that price analysis methods had been utilized to determine fair and reasonable price, but were not properly utilized. Finally, Jaggard also found that contracting officers have not properly determined whether cost analysis or price analysis was the proper method for fair and reasonable price determinations and when cost related data should be requested.

In determining if price is fair and reasonable, contracting personnel must ensure that they are utilizing the proper analysis tools. Personnel must determine if cost analysis or price analysis will be used to evaluate bids/proposals. FAR 15.404-1(b)(1) identifies Price Analysis as “the process of examining and evaluating a proposed price to determine if it is reasonable, without breaking down the price and evaluating its separate cost elements and proposed profit”. FAR 15.404-1(c)(1) defines Cost Analysis as “the review and evaluation of any separate cost elements and profit or fee in an offeror’s or contractor’s proposal, as needed to determine a fair and reasonable price or to determine cost realism...”. According Gladys Gines & Paul Cataldo (2011) the technique to be utilized is general based on the price threshold of \$700K. If an acquisition exceeds \$700K and does not meet one of the exemptions outlined in FAR 15.403-1(b), certified cost or pricing data is required and the cost analysis method will be utilized. This method evaluates the individual cost or price elements of a bid/proposal. FAR 15.404-1(a)(4) also indicate that “Cost analysis may also be used to evaluate data other than certified cost or

pricing data to determine cost reasonableness or cost realism when a fair and reasonable price cannot be determined through price analysis alone for commercial or non-commercial items.” Finally, cost analysis is utilized for acquisitions for cost-reimbursement contracts and competitive fixed-price incentive contracts (Gines & Cataldo, 2011). The price analysis methods are utilized for all other acquisitions to determine price reasonableness.

C. SECTION III: IMPROVING PRICE REASONABLENESS DETERMINATIONS

Although much of the previous literature on the topic of fair and reasonable price determinations is negative, several authors have identified tools and techniques that can be utilized to make improvements. Utilization of these tools and techniques would have an overall positive impact on the completion of fair and reasonable price determination. The following will address capability gaps of the current workforce and methods to reduce those gaps, improvements in market research reports, and promoting new pricing policies/tools.

One of the biggest factors leading to poor fair and reasonable price determinations is the knowledge gap of the workforce in cost and pricing analysis. The report produced by Thomas et al. indicates that senior leaders view cost and price analysis techniques as a fundamental skill for the workforce. The report also indicates that senior leaders believe the workforce is severely lacking in the following skill areas: Advanced Cost and/or Price Analysis, Preparation and Negotiation, Bid Evaluation, and Negotiate Forward Pricing Rate Agreements. In order to close the knowledge gap for contracting personnel, the leaders have identified the following strategies for improvement:

- Review and enhance the existing training. This would include basic cost/price analysis courses for all 1102s and advanced pricing for senior contract specialists and price analysts.
- Improved training and policy regarding price reasonableness and negotiation processes.
- Establish career ladders for Cost Estimating and Pricing Specialists.
- Establish Cost/Pricing Centers of Excellence

Implementing these suggestions would assist in creating a more knowledgeable workforce and would result in fewer errors in price reasonableness determinations.

As has previously discussed, market research reports are an important tool in understanding contract pricing. Market research assists in the development of IGCEs and provides contracting personnel with possible comparison items for use in determining fair and reasonable price. In an effort to improve market research reports, the DoD has created the *Market Research Report Guide for Improving the Tradecraft in Service Acquisitions*. This guide provides a template to utilize in the completion of the market research report. The guide also identifies instructions for preparation, considerations to be aware of, and techniques that can be utilized in creation of the market research report. Overall, the guide is a useful tool that all contracting personnel can utilize to improve their skills.

Finally, *Battle (2008)* has proposed that, “all non-sensitive government contracts be uploaded to the internet.” A database such as this would be useful for the entire contracting workforce, regardless of skill level. This database would provide thousands of previous contract actions for review and use for price comparison purposes. The database could also be utilized to develop the market research report and promote further competition.

III. METHODOLOGY

The purpose of this chapter is to identify the methods used in collecting data necessary for research analysis. A discussion will be included to identify how the survey was designed, distributed, and the goal of the survey. Finally, this chapter will outline the checklists created for contract file review and the methods used to identify which contract files would be selected for review.

A. SURVEY DESIGN

The Price Reasonableness Survey was broken down into four distinct parts; 1) Demographic Information, 2) Acquisition Information, 3) Pricing Information, and 4) Supervisory Information. The questions created in the demographic portion of the survey were developed in an effort to identify the participants' skill level and knowledge base. This information would assist in determining how contracting personnel with different levels of experience viewed their knowledge and expertise in cost and price analysis. The acquisition information section of the survey was prepared in an effort to determine what types of acquisitions the contracting personnel were working on a daily basis. Pricing information was designed to determine what methods of price analysis the contracting personnel utilized most often and whether the personnel had received appropriate training in the price analysis techniques. Finally, the Supervisory Information section was prepared in an effort to determine how senior contracting personnel viewed their subordinates' price analysis abilities and to determine if they were aware of any shortcomings in contract personnel knowledge levels.

B. SURVEY SUBJECTS

The survey was distributed to three specific organizations within DoD. With Directors approval, the survey URL was e-mailed through distribution lists targeting contracting personnel in the 1102 job series. The surveys were completed on a voluntary basis and no personally identifiable information was gathered.

C. SURVEY LIMITATIONS

The survey presented to contracting personnel contains two inherent shortfalls. First, the survey was voluntary and not required to be completed by contracting personnel. As a result, the researchers were unable to ensure diversity in the skill levels of surveyed personnel. Second, the validity of the survey is dependent on personnel answering the survey honestly and fully understanding the questions that are presented. False information and the inability to verify answers may lead to inaccuracies in the data collected. The Survey data collected will be reviewed in Chapter IV.

D. FILE REVIEW CHECKLISTS

Two checklists were created to be utilized in the contract file review. One checklist for acquisitions that utilized Simplified Acquisition Procedures (SAP) and a check list for acquisitions above the Simplified Acquisition Threshold (SAT). Each checklist contained an item to determine the commerciality of the contract, the type of acquisition (ex: supply, service, or construction), and what procedures were used/documentated in the file in regard to price reasonableness.

E. CONTRACT FILE SELECTION

Contract files from three DoD activities were utilized in the data collection process. Each file was randomly selected utilizing Microsoft Excel's random number function. All contract file actions from the previous two years were listed in an Excel Spreadsheet. The files were then assigned a random number generated by Excel. The files were then put in ascending order based on the randomly assigned number. The first 30 files that had price reasonableness requirements were then reviewed utilizing the checklists. Note that some contract actions, like administrative and funding modifications, do not require a price reasonableness determination.

The results of this data file review were then scored numerically (1 yes, 2 no, 3 or 0 NA) and recorded in a spreadsheet format for each command based on the prescribed file review questionnaire. The questionnaire was designed to verify if the end user provided pre-solicitation documentation (IGCE and market research), if the

documentation provided could be substantiated, and what procedures and method(s) were used by the KO/KS to determine fair and reasonable pricing. The data was compiled into one spreadsheet relaying data for a total of 90 contract files awarded in the last two years.

F. CONTRACT FILE SELECTION LIMITATIONS

As all contract actions over a two year period were included in the sample, some of the contract actions did not require price reasonableness determinations (i.e. extension in period of performance modifications). When these contracting actions were included in the random sample for review, they were passed over and the next random file in the list was reviewed. The Contract File data collected will be reviewed in Chapter IV.

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IV. CONTRACT FILE AND PERSONNEL SURVEY DATA

The following tables and charts were partially based off of charts provided in DoD-IG report “Contractor Officer Determinations of Price Reasonableness When Cost or Pricing Data Were Not Obtained”, Report Number D-2001-129, dated May 30, 2001. While the DoD-IG report addressed similar Price Reasonableness concerns, the charts and data were from a different threshold and were taken from all services in the 1998 and 1999 Fiscal Years. The awards utilized for review in this research report fell within the Simplified Acquisition Procedures threshold, which covers supplies and services costing between \$3,000.00 and \$6.5 Million.

Table 1 reflects data results for the first seven questions on the Contract Pricing Checklist Simplified Acquisition Procedures (SAP).

Commercial vs. Noncommercial				
	Commercial		Noncommercial	
	<u>Actions</u>	<u>Dollar Amount</u>	<u>Actions</u>	<u>Dollar Amount</u>
Supplies	57	\$2,070,599.23		
Services	31	\$1,663,292.59		
Both	2	\$23,752.60		
Total	90	\$3,757,644.42		

Table 1. Commercial vs. Noncommercial

All 90 contract files reviewed were for commercial supplies and/or services. The commands SAP purchases tend to be lower dollar amounts within the Simplified Acquisition Threshold (SAT) which is \$3,000 to \$150,000, as depicted by the total of 90 awards accounting for only \$3.7 million. Of the 90 contract files reviewed, only two files included both services and supplies. Commercially available supplies accounted for 57 of the contract files reviewed, while commercially available services totaled 31 of contracts reviewed. A majority of contracts reviewed for this report were low dollar (under simplified acquisition threshold) contracts for commercially available supplies as demonstrated in Figure 1.

Contract File Data - Supplies and Services Breakout

■ Supplies & Services ■ Supplies ■ Services

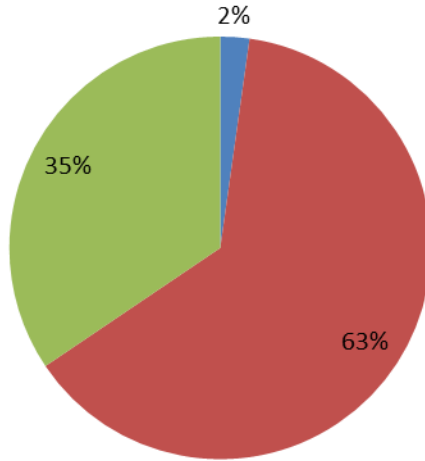


Figure 1. Contract File Data – Supplies and Services Breakout

Tables 3 and 4 in the DoD IG report addressed audit results on contracts that failed to contain Certified Cost or Pricing Data (10 U.S.C. 2306a and 41 U.S.C. 254b). FAR 15.403-4(a)(1) states that the threshold for obtaining certified cost or pricing data is \$700,000, unless an exception applies. Of the 90 files that were randomly reviewed in this project, none met the \$700,000 threshold, or the requirement of obtaining certified cost or pricing data. Therefore, price reasonableness charts depicting data results for the appropriate threshold pursuant to FAR part 13.106-3(a) were used to depict how the KO determined proposed prices were fair and reasonable. To display and assess the findings, the results are divided into pre-award determinations, and those used at the time of award to justify price reasonableness. For reference, table 3 of the DoD IG report:

Table 3. Contracts Awarded Slightly Under Threshold Requiring Cost Or Pricing Data				
<u>Contract Number</u>	<u>Award Date</u>	<u># Of Units</u>	<u>Unit Price</u>	<u>Total Price</u>
DAAE07-99-C-N013	3/29/99	196	\$2,539	\$497,644
DAAE07-99-C-N033	6/9/99	200	\$2-,493	\$498,600
DAAE07-99-C-N045	8/30/99	200	\$2,493	\$498,600

Table 2. Contracts Awarded Slightly Under Threshold Requiring Cost or Pricing Data. From [DoD IG Report No. D-2001-129]

For reference, Table 4 of the DoD IG report:

Table 4. Summary of Price Reasonableness Problems		
<u>Problems</u>	<u>Number of Occurrences</u>	<u>Data Sufficient To Compute Overpricing</u>
Acceptance of catalog prices without any additional review of price	34	7
Use of prior prices without establishing the reasonableness of the prior prices	42	21
Inadequate competition	15	9
Cost analyses	24	9
Other reasonableness problems	9	6
Total	124	52

Table 3. Summary of Price Reasonableness Problems From [DoD IG Report Report No. D-2001-129]

Table 4 reflects data gathered from questions 8 through 13. The results are conveyed as being pre-solicitation inputs, based on the timing of documentation as determined by command policies and the FAR.

Pre Solicitation Price Reasonableness Inputs			
	Supply	Service	Not Provided
Substantiated IGE	9	5	76
MRR addressing Pricing	19	13	58
Open Competition	28	13	49
Limited Competition			
Justified	25	14	51

Table 4. Pre Solicitation Price Reasonableness Inputs

An Independent Government Cost Estimate (IGCE) is required in all contract files exceeding the SAT pursuant to FAR 15.402 Pricing Policy. Although all files reviewed were below the SAT, the IGCE is still required by command level policies as a piece of documentation that should be in an end user’s request for contractual procurement package.

Market Research policy and procedures are set forth in FAR part 10, DFARS 210.001, and AFARS 5110.0002(b) provides procedural guidance. Market Research Reports (MRR’s) are always required depending on the dollar threshold of the purchase, and the local command policy. Formal guidance for completing MRR’s within DoD can be traced to local policy guidance, which can be released at any time throughout a fiscal year. Once guidance is created, a formal requirement for MRR’s and IGE’s may be established for the contracting requests under the SAT. Out of the 50 files containing market research reports, only 32 addressed pricing data. Files may have been reviewed where policy did not require an MRR or IGCE at the time the contract was awarded.

The Market Research Report in a contract file should reflect the decision making leading up to solicitation. Such detailed information in SAT files would strongly influence later price reasonableness determination options, based on solicitation exclusions and market place determinations. Since the data files reviewed fell within the SAT, the details may be limited based on the commercial availability and dollar amount. FAR 10.001(a)(2) Policy dictates that “market research be conducted appropriate to the circumstances.” Therefore, a commercially available SAT item that has been purchased before, and is within a familiar market place, might be solicited with little pre-solicitation research.

Competition, whether open or restricted, is a very important aspect of price reasonableness determinations, and the award process. The numbers in Table 3 show that competition was limited on almost half of the procurements reviewed which raises a few questions. While an item might be commercially available, customers generally seek DoD caliber supplies and services, which could explain restrictions on competition. The wellbeing of service members can dictate levels of quality and rigid standards needed in providing supplies and services for DoD, where a fixed price is solicited and paid. Figure 2a below provides a breakdown of the methods used to determine price reasonableness on supplies, Figure 2b services for the contract files reviewed for this report.

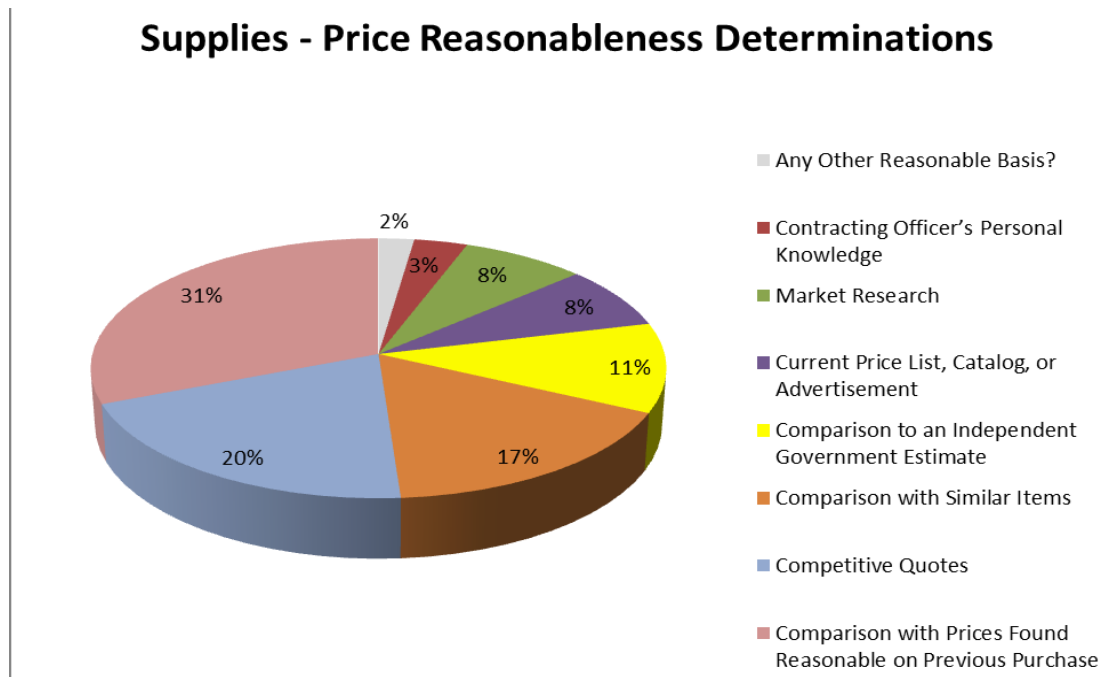


Figure 2. Supplies – Price Reasonableness Determinations

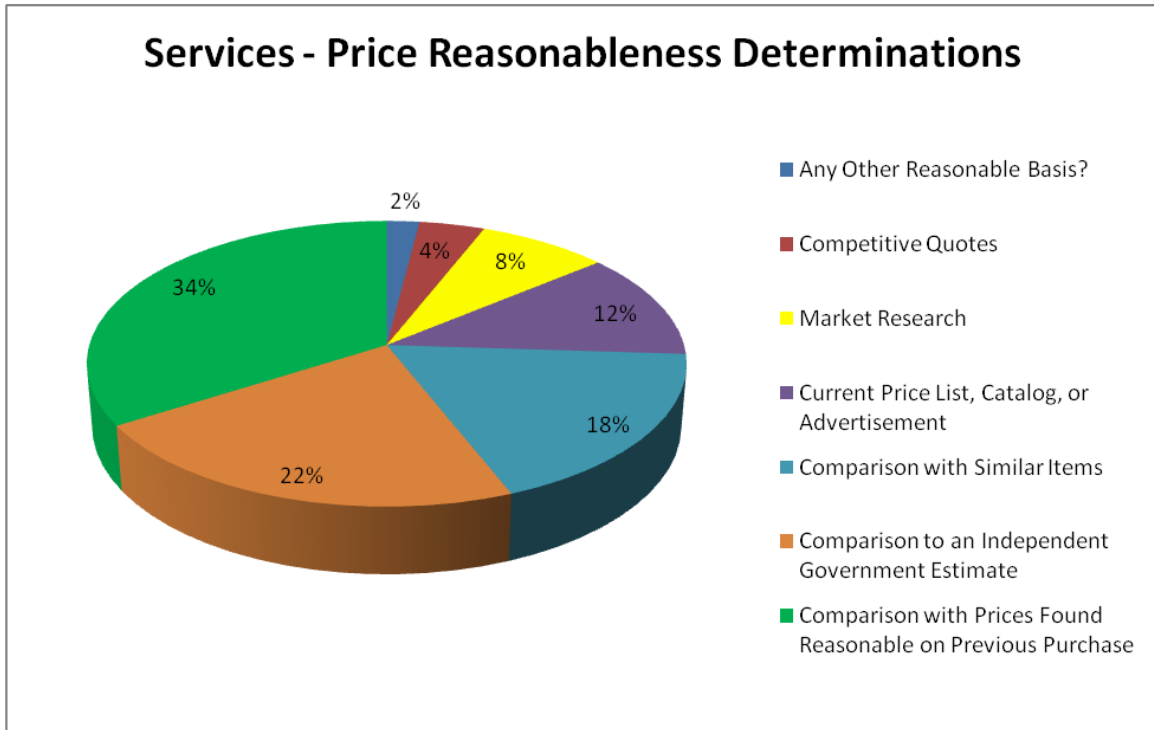


Figure 3. Services – Price Reasonableness Determinations

Comparing the methods for determining price reasonableness, the researchers can conclude that the most favored or common method, whether the contract is for a supply or service, is comparison with prices found reasonable on previous purchase(s). 34% of the pricing memorandums for services and 31% for supplies cited previous purchases as a basis for price reasonableness. The data shows that the least favorable or least used methods for determining price reasonableness for supplies and services were the KO’s personal knowledge – which was not cited in any of the price reasonableness determinations for services – and the “any other reasonable basis” determination, was cited in 2% of price reasonableness determinations for supplies and services.

Only 4% of price reasonableness determinations for services were based on competition. This is surprisingly low considering that all services contracted were considered commercially available, which would typically indicate competitive marketplace conditions. Researchers can partially explain the statistic: 14 of the 31 service contracts did not use full and open competition and a justification for other than full and open competition was provided. There were an additional four instances where

full and open competition was not used to obtain quotes, but there was no justification and approval in the file supporting the decision. There were no instances where competition was a factor in determining prices fair and reasonable where full and open competition was not provided for.

In contrast, 20% of supplies acquired under contract in the files reviewed based their price reasonableness memorandum on competitive quotes. Out of the 57 supply contracts, 24 did not provide for full and open competition and were accompanied by a justification and approval. An additional three supplies were purchased without providing for full and open competition and lacked the justification and approval documentation. Approximately 47% of the supplies purchased did not provide for full and open competition, providing an explanation for the somewhat limited use of competitive quotes to determine fair and reasonable pricing. 28 of the 57 supply contracts allowed for full and open competition. Of these 28 competitive efforts, only 16 received two or more quotes. If the supplies met the definition of a commercial item, one would expect to see two or more quotes when full and open competition is allowed for.

Table 5 provides data taken from award determination documentation addressing the justification of Price Reasonableness (covers the remaining file review questions):

What was the justification for price reasonableness?		
	Supply	Service
Competitive Quotes	18	2
Market Research	7	4
Comparison with Prices Found Reasonable on Previous Purchase	28	17
Current Price List, Catalog, or Advertisement	7	6
Comparison with Similar Items	15	9
Contracting Officer's Personal Knowledge	3	0
Comparison to an Independent Government Estimate	10	11
Any Other Reasonable Basis?	2	1

Table 5. What was the justification for price reasonableness?

Table 5 data is based on Survey questions that were created based on the fair and reasonableness guidelines in FAR 13. Of the files reviewed, documentation reflected multiple methods of price reasonableness, such as an award made from a GSA quote where more than one offer was provided. Such a quote could be determined reasonable based on competitive quotes, price lists, and proposed prices found reasonable on previous purchases; therefore, the data might not create an accurate picture of awards made without any justification as to price reasonableness. Awards issued to a GSA vendor would also have a price reasonableness justification in the file referencing FAR 8.404(d) “GSA has already determined the prices of supplies and fixed-price services, and rates for services offered at hourly rates under schedule contracts to be fair and reasonable”. If FAR 8.404(d) was referenced in the award justification, it is hard to determine what potential survey responses would have been marked. The contract file review checklist utilized did not take FAR part 8 into consideration; therefore, a concrete explanation cannot be validated.

Further supporting the fact that multiple methods were used to determine price reasonableness, Table 5 depicts that of 31 service-based acquisitions, there are 50 justifications of price reasonableness. Supplies accounted for 57 of the file reviews and 90 justifications of reasonable price were provided. Of the 90 files reviewed, there were eight instances where no memorandum of price reasonableness or documentation could be found, in other words, 91% of files reviewed contained a price reasonableness memorandum.

In addition to conducting a file review, a survey was issued to select DoD installation contracting personnel. The intended recipients of the personnel survey were individuals responsible for conducting price analysis, including Contracting Officers, Contract Specialists, Contract Administrators, and Price Analysts. There were 46 responses received, of which only 36 consented to the use of data provided for the purposes of this report. Of the 36 consenting respondents, 94% were DoD Civilians and 6% Active Duty. Figure 4 provides a breakdown of the respondents’ years of experience:

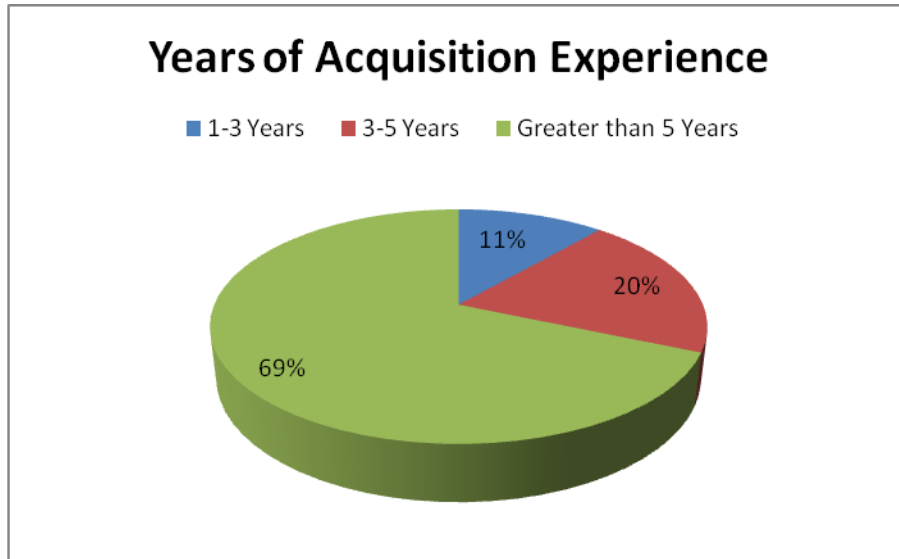


Figure 4. Years of Acquisition Experience

The majority of personnel surveyed had greater than five years of experience. Figure 5 shows the DAWIA Certification Level of the personnel surveyed, the majority of which were Level II certified or higher.

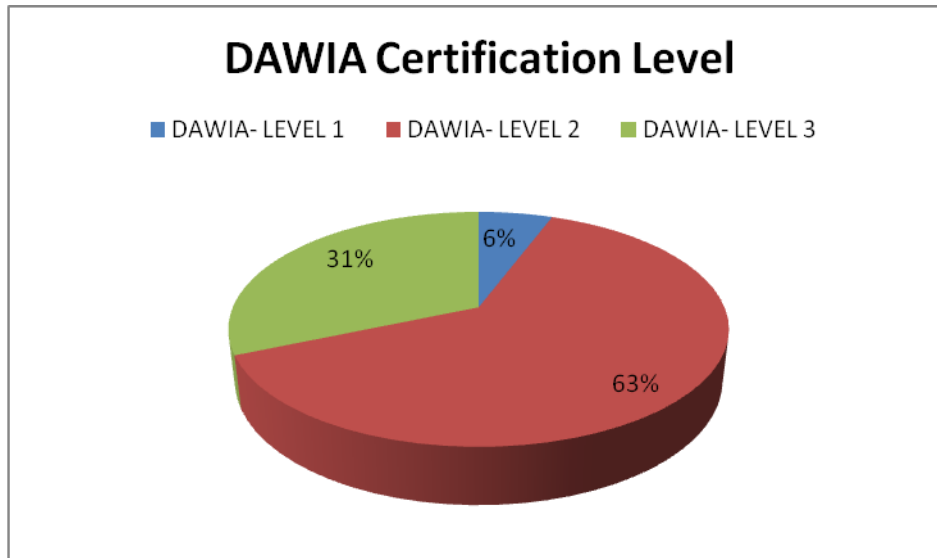


Figure 5. DAWIA Certification Level

The survey had individuals indicate which of the following pricing specific Defense Acquisition University (DAU) training courses they had completed:

- CON 104 – Principles of Contract Pricing
- CON 170 Fundamentals of Cost and Price Analysis
- CON 217 – Cost Analysis and Negotiation Techniques
- CON 270 – Intermediate Cost and Price Analysis

Out of the 36 respondents, seven had taken all four courses. The seven individuals who had completed all pricing courses listed above also had greater than five years’ experience. Additionally, nine of the respondents with greater than five years of experience had taken one or less of the pricing courses. Of the respondents with five or more years’ experience, who had completed one or less of the courses listed above, four were Level III DAWIA Certified and five were Level II DAWIA Certified.

Table 6 is a summary of pricing courses required for DAWIA Certifications at each level.

Certification Standards for Contracting Series, Courses Relating to Price		
DAWIA Level I Certifications:	DAWIA Level II	DAWIA Level III
Required: CON 170 – Fundamentals of Cost and Price Analysis; CLC 058 Introduction to Contract Pricing	Required: CON 270 – Intermediate Cost and Price Analysis	Optional: CON 235 Advanced Contract Pricing
Experience – 1 Year	2 Years of Experience	4 Years of Experience

Table 6. Certification Standards for Contracting Series, Courses Related to Price
[After Defense Acquisition University, 2013]

The requirements for Certifications have evolved over the years to keep up with changing policy. Courses required to obtain Level III Certification today are different than what was required to obtain Level III Certification in past years. For example, CON 170 was implemented in October of 2011 based on USD (AT&L) memo dated 25 March, 2011 (Defense Acquisition University, 2013). CON 270 was deployed in November of 2011, replacing CON 217. CON 104 has been phased out with no replacement.

Although the data indicates there are several DAWIA Level III certified personnel who have only completed one or less of the DAU Courses relating to pricing, it is not a reflection of over-certification, but rather a reflection of how the certification standards change. The years of experience also factors into the certification level of individuals surveyed. There were no DAWIA Level III respondents with less than five years of experience.

Non-supervisory personnel represented 80% of survey respondents. All supervisors that responded to the survey had greater than five years of acquisition experience, and five of the seven supervisors were DAWIA Level III certified, with two supervisors having only DAWIA Level II certification.

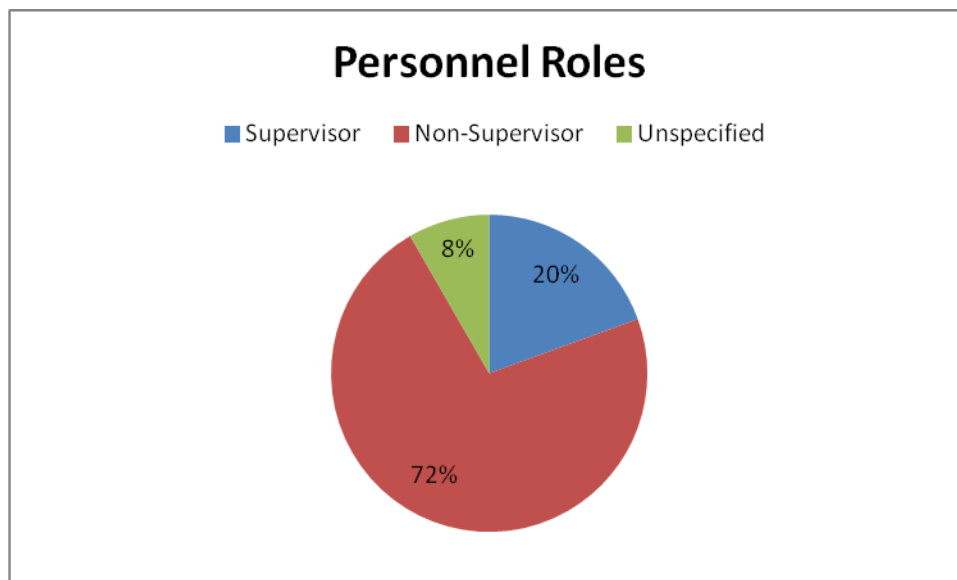


Figure 6. Personnel Roles

Of the personnel surveyed, 33 of 36 indicated they dealt with commercial item procurements on a daily basis, compared to 13 for non-commercial item procurements, with 100% of the respondents stating that the requirements were firm-fixed price contract types. Although approximately 36% of the respondents said they contract for non-commercial items daily, none of the files randomly selected for review were for non-commercial items. Of the 90 contract files reviewed, 81% did not define and document

the commerciality of the item or service being procured. DFARS 212.102(a)(i) states that a commerciality determination is only required for commercial item purchases valued at \$1M or above. As the contract files reviewed were under the SAT, a commerciality determination was not an official requirement for these contracts and may be why the percentage of commerciality definitions and documentations was low.

Of the personnel surveyed, 34 of the 36 indicated they perform price analysis in determining price reasonableness. The responses coincide with the sampling of data from the contract files: 91% of contract files had memorandums for price reasonableness or other documentation justifying the reasonableness of price. The survey asked personnel if they identify current market pricing for the item being purchased or for similar items. Figure 6 provides a breakdown of the responses:

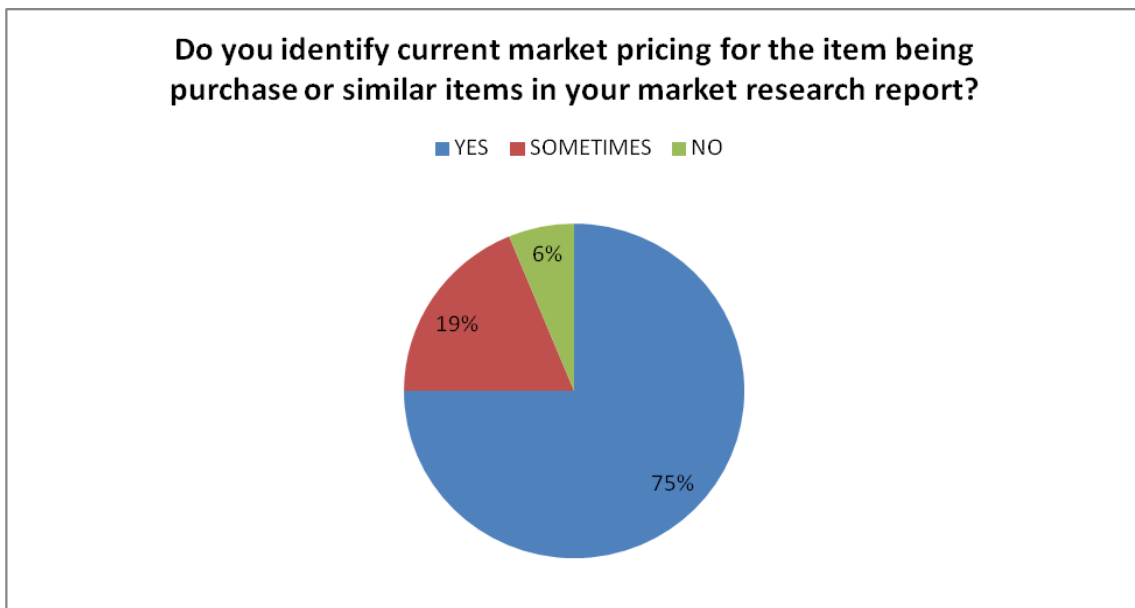


Figure 7. Current Market Price Identification Survey Question Responses

Although a majority of survey respondents indicated they identify current market pricing in their market research reports, comparison to current market pricing was only utilized in approximately 18% of price reasonableness memorandums. Also, 54% of survey respondents answered in the affirmative that they use comparison to competitive published catalogs or lists to establish price reasonableness. The contract file review data

reflects that approximately 18% utilized comparison to a competitive published catalog or list price in the pricing memoranda. Approximately 82% of respondents indicated that they used prices previously paid to determine that the proposed price were fair and reasonable. The contract file data supports this, as comparison to prices found reasonable on previous purchases was the most used method of determining pricing fair and reasonable.

The survey asked what challenges the respondents face in executing price analysis and in determining and documenting price reasonableness. Approximately 14% responded that a lack of knowledge existed, while approximately 55% responded they did not have adequate time to conduct price analysis. Of the five responses indicating lack of knowledge, only one had more than five years' experience and this individual appears to be an outlier as they indicate they are in Contract Administration, not purchasing. Three of the four who responded that they lacked knowledge are DAWIA Level II certified with one to five years of experience.

The other respondents citing a lack of knowledge are not in supervisory positions. Respondents selected "Other" and specified various reasons in 22% of the responses. One supervisor stated "I do not believe that the DAU class does a good job of teaching the requirement. DAU focuses on major weapons/production/trend analysis, etc. It doesn't really teach the basics for the everyday buyer." A non-supervisor response was that, "DAU contract pricing training was good "theory" learning, does not always transfer to actual buys being made in the office environment." One respondent cited that "Services tasks in the PWS are poorly defined and written. Service tasks are often borderline personal service. As a result, the IGCEs are extremely poor and unreliable."

Survey participants were asked if they believed the DAU contract pricing training has improved their ability to execute price analysis in determining and documenting price reasonableness. An overwhelming 75% of respondents replied "Yes" and 16% replied "No." Overall, 50% of the "No" responses were from supervisors. Of the "No" responses to this question, 83% of respondents had greater than five years of acquisition experience.

When supervisors were asked what their organization's biggest challenge was, a split response was received. Three supervisors answered that the skill level of employees was the biggest challenge the organization faced. Three supervisors answered that manpower was the biggest challenge. One supervisor answered "Other" and cited both manpower and the skill level of employees as their biggest challenge.

V. CONCLUSIONS AND RECOMMENDATIONS:

Overall, pricing memos were thorough in the documentation of price reasonableness determinations. Price analysis seemed to have a strong correlation to the initial Market Research Report, and the requirements package. The market research report and the requirements package dictated types of price analysis that could be used based on solicitation methods and restrictions. Pricing memos were prevalent in most every award file, and the amount of detail varied.

A price reasonableness memorandum was present in a majority of the files (91%), thus we conclude the deviation from the FAR clause 13.106-3 is uncommon. The contract file review questionnaire and checklist has room for expanded price reasonableness determination criteria and clarification. FAR 8.404(d), Use of Federal Supply Schedules “Pricing” was referenced in a number of pricing memos. While the use of FAR 8.404(d) Federal Supply Schedule pricing is not necessarily deviating from FAR Price Reasonableness determinations, the survey was drafted based on Simplified Acquisition price reasonableness standards in FAR 13. Contracting Officer determinations of price reasonableness may vary and not necessarily ‘deviate’ from the FAR and DFARS.

One method of price reasonableness determination, FAR 13.106-3(a)(2)(iii) states that “Current price lists, catalogs, or advertisements” may be used, but continues to state that, “However, inclusion of a price in a price list, catalog, or advertisement does not, in and of itself, establish fairness and reasonableness of the price.” While this was referenced in contract files, and measured by the contract file review, this type of response was not specifically critiqued for repeated use or for the supplemental types of reasonable pricing that was used in conjunction with this type of justification.

Future research efforts could be conducted on this data, in particular if a specific issue was a concern, such as what was used as a fair and reasonable price determination on awards where only one quote was received, or when only one quote was anticipated based on market research. Analysis could also be conducted on files that reflected usage

of Current price lists, catalogs, or advertisements since pursuant to FAR13.106-3(a)(2)(iii), use of these “does not, in and of itself, establish fairness and reasonableness of the price.” Future research could focus on a smaller sample size and explore to the extent multiple justifications are utilized, and to document any tendencies to use certain combinations in determining pricing reasonableness.

Some localized authorities within DoD reflect mandatory documentation of Independent Government Cost Estimates in the form of guides for all contract files (including those within the SAT) as recently as January, 2013. The low number of IGCE’s in the files recent command guidelines stipulating the requirement for an IGCE in SAT awards the figures seem to accurately reflect the inclusion of IGCE’s in SAT files over the two year review period. Future contract file data should reflect a higher number of IGCE’s in contract files from DoD commands based on local policy implementation.

Based on the overall number of commercial requirements within the SAT, and pursuant to FAR 13.106-3(a)(1) price reasonableness should be based on competitive quotations, more often than 20 times out of 90. This anomaly is probably based on some restrictive nature in the way requirements were written or solicited. Small Business set-asides, direct 8(a), Brand Name or Equal, and Sole Source requirements would directly impact the amount of competition for a solicitation, and the resulting price determinations. The questionnaire was not drafted to convey competition limitations such as GSA, small business set-asides, or some other not so overt restrictions. Some of these ‘minor’ upfront restrictions could significantly contribute to the lack of competitive quotations being used for price reasonableness. This could be based on a low number of quotes, and the potential disparity in pricing, along with other influencing factors. Future research could be to conduct an analysis of contract file data to determine the effects of inadequate competition and the reasons why adequate competition could not be obtained.

Market research, when used for determining price reasonableness, can provide critical information relevant to the contracting environment, the technical details of the requirement, and the commerciality of the product or the service, current market pricing and more. Market research was cited in the justification for price reasonableness in only 11 out of 90 folders reviewed, but was only present in 50 of the folders. There are

several reasons market research may not have been used. Market research can sometimes include customized quotes from end users who are not authorized to request such quotes. The pricing obtained during market research may not be reflective of pricing received under a fairly competed requirement. The market research can be misleading to the procurement official and in most cases, as demonstrated by the data, is not utilized as it may not be reliable information. Using market research information can also lead to inaccuracies in the pricing memorandum.

Contracting personnel have to conduct extensive market research for each contract to gain an accurate understanding of the market place. Relying solely on the market research information provided by the requestor leaves the contracting office open to protests, or at the very least, the appearance that the government does not understand its own requirements and the contracting environment in which they are operating. The DoD IG audits cited that market research reports were incomplete or fully omitted. The data supports that this is still a problem the acquisition workforce faces.

There is currently no litmus test for an end user submitting a procurement request. There are no apparent repercussions for end users who submit sub-par market research documentation, other than it may take them longer to get what they are requesting due to additional research being required of the procurement personnel. The risks of not adequately verifying or conducting market research are overpaying for supplies and services, exposing the government to protests, and diminishing the public's trust in the procurement process. The survey responses reinforce the distrust the contracting personnel have in the documentation provided by the requestors. Future research efforts could focus on relationships between customers and contracting personnel and the impact customers actions, or inactions, has on pricing.

Pricing memorandums utilized a variety of methods to determine price reasonableness in the files surveyed. The data supports more consistencies than deviations. The methods used to determine price reasonableness do not vary significantly from the determinations whether they are for products or services. Competition is not obtained as often for services as it is for products in the files reviewed, therefore was used less in determining price reasonableness of services. The DoD IG report cited

failure to make efforts to promote adequate competition. The data on services demonstrates that an environment exists in service contracting where adequate competition is difficult to obtain. Future research efforts could focus on what measures were taken to promote competition within service contracting and what steps are taken to determine fair and reasonable pricing where adequate competition did not exist.

Comparison to prices found reasonable on previous purchases was the most highly utilized method of determining price reasonableness. The risk in comparing previous prices paid is whether or not the original fair and reasonable determination utilized proper price analysis techniques. Comparing pricing to prices already found reasonable on previous contracts is likely preferred due to time savings. The personnel survey had a majority of personnel citing a lack of time as a reason adequate price analysis was not conducted. The use of the time-saving method of comparing to previous paid prices price analysis supports the assertion from contracting personnel that they do not have adequate time to do proper price analysis.

The lack of time could be a result of the increase of contracting workload exceeding the increase in hiring and training new acquisition workforce personnel, coupled with retiring and near-retirement age personnel. Future research could survey personnel to understand what the benefit of having more time to adequately conduct price analysis would be, or to better understand the root causes of contracting personnel not having adequate time to conduct proper price analysis.

Pricing memo inaccuracies have affected contracting and the DoD in several ways. Consequences include; improper price reasonableness determinations, overpaying for procurements, and an opening for possible award protest. To begin with, if the pricing memoranda are inaccurate, then it is possible that the price reasonableness determination has not been completed correctly. Contracting personnel need to ensure that the memoranda are accurate and properly identify how fair and reasonable price was determined.

Inaccurate pricing memoranda can often lead to the DoD overpaying for supplies, services, and construction acquisitions. In the process of awarding a contract the

contracting personnel must ensure that the proposed contract is of the lowest price or best value for the government. If inadequate information is included in fair and reasonable pricing memoranda it is possible that the government is not receiving a reasonable price for procurements and my cause overpayment that could have been avoided with further review and documentation.

Finally, it is possible that inaccurate pricing memoranda may lend credibility to contract award protests. When an award is protested all contract documentation may be reviewed. If it is determined that price reasonableness documentation was invalid or inaccurate a protest may be upheld. This would lead to more time needed to complete the procurements, higher administrative expenses for the government, and an overall increase of acquisition costs. Ensuring that pricing memoranda are accurate is essential for keeping costs down and confirming that contract awards are valid.

There are several reasons why price reasonableness memoranda may lack sufficient justification/supporting information. The reasons include; improper training/knowledge of the contracting workforce, an overloaded workforce, or improper price reasonableness determination method being used. The survey of supervisors indicated that they feel their contracting workforce may not have the necessary knowledge to properly complete fair and reasonable price determinations. The lack of contract price training leads to the inability of contracting personnel to properly justify how reasonable pricing has been determined. Certification for contracting personnel has only recently put an emphasis on pricing. The lack of previous emphasis on pricing has lead to a workforce that does not understand the importance of determining fair and reasonable pricing.

Responses to the survey also indicate that supervisors believe that their contracting activity has a shortage of manpower. This shortage of manpower has lead to the contracting personnel being overworked and forcing them to cut corners. As contract pricing has often been overlooked in the past, it is likely that this trend continues. Contracting personnel have attempted to meet the challenges presented by the war fighter, but documentation of price reasonableness determination has suffered due to manpower shortages.

Finally, it is possible that pricing memoranda contain insufficient supporting materials and is not properly justified due to the wrong method being utilized. FAR 13.106-3(a)(2) and FAR 15.404-1(b)(2) indicate the preferred methods to be utilized in determining price reasonableness. Based upon information received in response to the solicitation, the contracting personnel must determine the appropriate method for determining price reasonableness. If the incorrect method is selected, it is possible that the contracting personnel would not have the necessary information to properly document the price analysis. Contracting personnel must ensure that they have the necessary information to complete the analysis and to include that information in the fair and reasonable price determination.

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