



ACQUISITION RESEARCH PROGRAM SPONSORED REPORT SERIES

Analysis of Air Force Office of Special Investigations Agents' Knowledge of the Contract Management Process

December 2105

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Prepared for the Naval Postgraduate School, Monterey, CA 93943.



The research presented in this report was supported by the Acquisition Research Program of the Graduate School of Business & Public Policy at the Naval Postgraduate School.

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ABSTRACT

The Department of Defense has an annual budget of approximately \$495 billion. With such substantial resources being used to fund supplies, services, and weapons systems, auditability becomes vital to protecting against fraud, waste, and abuse. A hallmark of an auditable organization is competent personnel. To defend against and identify procurement fraud, a competent workforce must include both acquisition personnel and procurement fraud investigators.

The purpose of this research is to assess the Air Force Office of Special Investigation's procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as evaluate their perceptions of knowledge in these areas. This research used an online assessment tool. Results from the assessment indicate that, despite having a high perception of knowledge, procurement fraud agents generally scored low in each of the knowledge-based question categories. Based on the results of the analysis, the research presents recommendations and areas for further research.



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ACKNOWLEDGMENTS

First and foremost, we would like to thank our families for their enduring, unconditional devotion and sacrifice to support our ability to conduct this research. Despite the late nights and struggles, they were always there. As our graduate studies conclude, we would also like to show our gratitude to our thesis advisors, Dr. Juanita M. Rendon and Dr. Rene G. Rendon, for their support, encouragement, and guidance throughout this project. Their extensive knowledge of government contract management and procurement fraud activity was instrumental in the success of this research. Thank you. We would also like to thank the Air Force Office of Special Investigations, Office of Procurement Fraud as well as the United States Air Force Special Investigations Academy for offering their support and providing the necessary material for this research to take place. Ecclesiastes 12:12 states, “Of making many books there is no end; and much study is a weariness of the flesh.” Like all academic theses, ours required many hours of study and effort, which often led to weariness. Therefore, finally, we thank God for his continued blessing and strength that enabled us to persevere and complete this endeavor.



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ABOUT THE AUTHORS

Captain Mark George earned a Master of Business Administration degree from the Naval Postgraduate School, Monterey, CA where he studied acquisition and contract management in the Government School of Business and Public Policy. Captain George co-authored a thesis on the Analysis of Air Force Office of Special Investigation's procurement fraud agents' knowledge of contract management processes. This thesis was designed to identify and improve training inefficiencies within the contract fraud investigation environment.

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In 2007, Agent Menanno was selected for a position with AFOSI and was assigned to AFOSI Detachment 212, Shaw AFB, SC as a general crime investigator. In 2008, he



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Disclaimer: The views represented in this report are those of the author and do not reflect the official policy position of the Navy, the Department of Defense, or the federal government.



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LIST OF ACRONYMS AND ABBREVIATIONS

ACFE	Association of Certified Fraud Examiners
ACO	administrative contracting officers
AFFAR	Air Force Federal Acquisition Regulation
AFICA	Air Force Installation Contracting Agency
AFOSI	Air Force Office of Special Investigations
AFMC	Air Force Materiel Command
AOR	area of responsibility
AT&L	acquisition technology & logistics
AUSA	Assistant United States Attorney
B	billion
BEP	basic extension program
BPA	blanket purchase agreement
BRAC	base realignment and closure
BSIC	Basic Special Investigations Course
C2	command & control
CEO	Chief Executive Officer
CFE	certified fraud examiner
CFR	Code of Federal Regulations
CICA	Competition in Contracting Act
CID	Criminal Investigations Division
CITP	Criminal Investigators Training Program
CMMM	Contract Management Maturity Model
CONUS	continental United States
COR	contracting officer's representative
CPE	continue professional education
CPFF	cost-plus fixed fee
DAF	Department of the Air Force
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DCIS	Defense Criminal Investigative Service



DFARS	Defense Federal Acquisition Regulation Supplement
DOD	Department of Defense
DODIG	Department of Defense Inspector General
DOJ	Department of Justice
ECIA	economic crimes investigation and analysis
ECP	economic crime plan
ECTA	economic crime threat assessment
EVM	earned value management
FAR	Federal Acquisition Regulation
FBI	Federal Bureau of Investigations
FARA	Federal Acquisition Reform Act
FASA	Federal Acquisition Streamlining Act
FLETC	Federal Law Enforcement Training Center
FY	fiscal year
GAO	Government Accountability Office (prior to July 7, 2004, known as General Accounting Office)
GDMA	Glenn Defense Marine Asia
GPC	government purchase card
GPE	government point of entry
GSA	General Services Administration
GSA OIG	General Services Administration Office of the Inspector General
HQ AFOSI	Headquarters Air Force Office of Special Investigations
IDIQ	indefinite delivery indefinite quantity
IFB	invitation for bid
IG	Inspector General
IRB	Institutional Review Board
ISR	intelligence, surveillance, & reconnaissance
LPTA	lowest price technically acceptable
M	Million
MFH	military family housing
MFLAT	money laundering and asset forfeiture training
MICC	Mission Installation Contracting Command



MCIO	Military Criminal Investigation Organization
MILCON	military construction
MILPERS	military personnel
NCIS	Naval Criminal Investigative Service
NCMA	National Contract Management Association
OFF	Office of Procurement Fraud
OL	operating location operations
O&M	and maintenance Office
OGE	of Government Ethics
OMB	Office of Management and Budget
OUSD	Office of the Under Secretary of Defense
OUSD[AT&L]	Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics
OUSD[C]	Office of the Under Secretary of Defense (Comptroller)
PFU	procurement fraud units
PSIT	product substitution investigations training
PWS	performance work statement
REA	request for equitable adjustment
RFI	request for information
RFP	request for proposal
RFQ	request for quote
RDT&E	research development test & evaluation
SAF/FM	Secretary of the Air Force for Financial Management
SAP	simplified acquisition procedures
SAT	simplified acquisition threshold
SBA	Small Business Act
SOO	statement of objectives
SOW	statement of work
SMC	space and missile center
SSA	source selection authority
SSAC	Source Selection Advisory Council
SSEB	Source Selection Evaluation Board



SST	source selection team
T&M	time and materials
TINA	Truth in Negotiations Act
TOA	total obligation authority
UCMJ	Uniform Code of Military Justice
U.S.C.	United States Code
USAFSIA	United States Air Force Special Investigations Academy
USAID	United States Agency for International Development



I. INTRODUCTION

A. BACKGROUND

Each year, the Department of Defense (DOD) spends billions of dollars purchasing services and supplies to execute its mission. Many of these procurements are conducted through government contracts, which, due to the complex nature of the programs, lack of experience of the acquisition workforce, and inadequate acquisition planning and contract support, leave the DOD vulnerable to fraudulent activity (Government Accountability Office [GAO], 2015; Headquarters Air Force Office of Special Investigations [HQ AFOSI/XRG], 2009). In fact, due to these issues, the DOD contract management has been on the GAO's High Risk Series since 1992 (GAO, 2015).

For an organization to protect against fraud, it must be auditable. Auditability means there is a document trail that someone can follow to know exactly what happened and why. Auditability enables the government to maintain an image of “integrity, accountability, and transparency” by employing competent people, implementing capable processes, and instituting effective internal controls (Rendon & Rendon, 2015, p 1). In the context of DOD acquisition, the phrase “competent people” means the contracting workforce is knowledgeable in contracting. Competent people also include those who investigate procurement fraud. When fraudulent activity is discovered or suspected within the Air Force, allegations are reported to the Air Force Office of Special Investigations (AFOSI) for investigation.

Established in 1948, AFOSI is a federal law enforcement and investigative agency for the Department of the Air Force (Hagerty, 2008). In this capacity, AFOSI's mission is to “identify, exploit and neutralize criminal, terrorist and intelligence threats to the Air Force, Department of Defense and U.S. Government” (Air Force Office of Special Investigations [AFOSI] Public Affairs Office, 2011). AFOSI has approximately 2,300 federally credentialed special agents to execute its mission, with a portion of its resources dedicated to investigating procurement fraud (AFOSI Public Affairs Office, 2011).



As procurement within the DOD came under scrutiny for fraud, waste, and abuse, AFOSI created the Office of Procurement Fraud, where special agents have a specific mission to detect and investigate procurement fraud within the Air Force (C. King, personal communication, July 1, 2015). For this reason, AFOSI trains all agents on the fundamental aspects of procurement fraud schemes. There is also advanced training available for agents who specialize in procurement fraud investigations. This training covers investigative techniques and an analysis of procurement fraud indicators, and takes an in-depth look at various procurement fraud scheme case studies. Although the additional training is not mandatory for agents, it is highly encouraged by AFOSI leadership (C. King, personal communication, July 1, 2015). By broadening the knowledge base for AFOSI special agents with regard to the contract management process and their relationship to procurement fraud schemes, AFOSI will be better postured to identify fraud earlier in the contract management process.

B. PURPOSE OF RESEARCH

The purpose of this research is to assess AFOSI's procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in these areas. Results from the analysis may be utilized to identify areas for improvement as well as to make recommendations to enhance AFOSI's training curriculum, which may improve agent training on the contract management process and procurement fraud schemes. A greater level of knowledge may also foster stronger relationships with contracting agencies and improve the capabilities and efficiencies of the investigative process.

C. RESEARCH QUESTIONS

The research questions for this research include the following:

1. What are AFOSI procurement fraud agents' knowledge levels of the phases of the contract management process?
2. What are AFOSI procurement fraud agents' knowledge levels of contracting as related to procurement fraud schemes?



3. What are AFOSI procurement fraud agents' perceptions of their knowledge of the contract management process and procurement fraud schemes?

D. BENEFITS AND LIMITATIONS

This research assesses the contract management process and procurement fraud knowledge levels of AFOSI's procurement fraud agents and may identify areas for improvement to the current AFOSI economic crimes training curriculum. This research may assist AFOSI leadership in identifying future areas of training emphasis for procurement fraud investigators. With better training, AFOSI agents will be in a better position to analyze government contracts, and identify and investigate procurement fraud schemes.

This research also led to the development of an assessment tool to test the level of knowledge among AFOSI procurement fraud agents on the contract management process and procurement fraud schemes. This research tool may be refined and used for further research within other investigative services both inside and outside the DOD.

Limitations to this research include the validity of the survey instrument used as an assessment tool, the sample size of individuals that completed the survey, and the deployment method of the assessment tool. Information to develop the assessment tool was taken from the Federal Acquisition Regulation (FAR), National Contract Management Association (NCMA) certification study guides, and the researchers' own experiences. Another limitation is that the survey contained a limited number of questions per contract management process and procurement fraud schemes. The number of questions asked may not be enough to accurately determine agents' knowledge levels of contract management process and procurement fraud schemes.

Yet another limitation to this research is the potential for survey participants to receive assistance from outside sources because the agents were not monitored during the assessment. Other limitations include agents who failed to complete the survey or who answered questions without giving serious thought to their answers (e.g., rushed through the survey or selected random answers). This could cause the results and statistical analysis to become skewed.



E. METHODOLOGY

The foundation of this research is a comprehensive literature review on the contract management process and major procurement fraud schemes. In addition, this research presents a background on AFOSI, which includes details on the training requirements for special agents as well as advanced training available for agents investigating procurement fraud. To gain an adequate understanding of AFOSI procurement fraud training, both basic and advanced course material was reviewed. This information was also used to assist in the development of a survey instrument, which served as the assessment tool to collect primary data for this research. AFOSI leadership granted permission to survey all current agents assigned to procurement fraud units. The appropriate Institutional Review Board (IRB) procedures were followed. Agents who participated in this research took the survey online at their workstations and within their own schedule constraints.

In addition to AFOSI course information, survey questions were derived from previously developed and employed surveys, the FAR, NCMA certification study guides, as well as the researchers' own experiences and expertise. The questions have differing levels of difficulty and focus on areas unfamiliar to AFOSI agents. The survey questions were analyzed by subject matter experts for readability, understandability, and clarity. The survey was deployed using LimeSurvey and was available for approximately five weeks. The survey assessed AFOSI agents' knowledge of the contract management process as well as procurement fraud schemes within the phases of the contract management process. The survey also included questions to assess agents' perceptions of their knowledge in these areas. Survey results were analyzed using descriptive statistics and used to identify areas of improvement for AFOSI training.

F. ORGANIZATION OF REPORT

This research paper contains six chapters. Chapter I serves as an introduction and provides a general overview of the research. Chapter II is a literature review detailing the DOD procurement environment, the need for auditability, and a discussion of the contract management process and procurement fraud schemes. Chapter III outlines the history of



AFOSI and provides a synopsis of the training required as well as additional optional training available for AFOSI agents assigned to units primarily focused on investigating procurement fraud. Chapter IV presents the methodology used to develop and deploy the assessment tool and collect data, as well as describe how the responses were analyzed using descriptive statistics. Chapter V discusses the results of the survey, provides an analysis of the results, and provides recommendations on how to improve training for agents assigned to units within the AFOSI Office of Procurement Fraud. Chapter VI provides a summary and conclusion of the research and identifies areas for further research.

G. SUMMARY

This chapter introduced the research, the benefits and limitations, the methodology used to collect and analyze the data, and the organization of this report. The purpose of this research is to assess AFOSI's procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in these areas. The next chapter, Chapter II, comprises a literature review of the need for auditability, contract management process, and the major procurement fraud schemes.



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II. LITERATURE REVIEW

A. INTRODUCTION

Chapter II summarizes the literature on the contract management process and procurement fraud schemes. This chapter draws heavily from research by Chang (2013) on the Army's Mission Installation Contracting Command (MICC). Chang assessed contracting personnel's knowledge of procurement fraud schemes as related to the contract management process and internal controls. The purpose of this research is to assess the Air Force Office of Special Investigation's (AFOSI) procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in these areas.

This chapter presents a brief synopsis of the Department of Defense (DOD) procurement fraud environment, which includes a general discussion of the auditability triangle. A detailed description of the contract management process is also presented. The major procurement fraud schemes that are common in federal contracting are also discussed. Finally, this chapter discusses the "competent people" component of the auditability triangle, which is the focus of this research.

B. PROCUREMENT FRAUD ENVIRONMENT

In 2014, the Department of the Navy became engulfed in one of the largest bribery and conspiracy cases in recent history. The chief executive officer (CEO) of Glenn Defense Marine Asia (GDMA), Leonard Glenn Francis, a former defense contractor known as "Fat Leonard," was charged with defrauding the government of millions of dollars during the execution of ship husbanding services throughout the Southeast Asia area of responsibility (AOR) (Adams, 2015). Several high-ranking Navy officials pleaded guilty to charges of bribery and conspiracy for releasing confidential information to Fat Leonard in return for various bribes and kickbacks. As of December 2015, the case was still ongoing. Cases such as this highlight the DOD's need for strong fraud prevention measures.



The DOD budgets approximately \$495 billion annually due to an increased reliance on contracted supplies and services to execute its mission both at home and abroad (GAO, 2015). This increased use of contracting has created a demand for auditability in government operations. As Rendon and Rendon (2015) found, “auditability is needed by procurement agencies to ensure the integrity, accountability, and transparency of its procurement programs and is an organization’s first line of defense in the battle against procurement fraud” (p. 3). The three components of the auditability triangle are effective internal controls, capable processes, and competent people (Rendon & Rendon, 2015). If an organization lacks in one of these areas, it may become vulnerable to fraud.

The first component of the auditability triangle is effective internal controls. Effective internal controls consist of five components: “control environment, risk assessment, control activates, information and communications, and monitoring. The objectives of these five components are for the organization to achieve ‘effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations’” (Chang, 2013, p. 15; General Accounting Office, 1999). The GAO (2014) updated its report on Standards for Internal Controls and found that effective internal controls safeguard the contract management process and reduce the risk of procurement fraud.

The Association of Certified Fraud Examiners (ACFE) was founded in 1988 with the intention of “reducing the incidence of fraud and white-collar crime” (ACFE, 2014, p. 1). The ACFE estimates that “typical organizations lose 5 percent of revenues each year to fraud” (ACFE, 2014, p. 4). The DOD is no exception and is vulnerable to fraud, waste, and abuse. Tan’s (2013) research analyzed 20 fraud cases from GAO and DODIG reports and found that weaknesses in internal controls within the contract management process led to fraud incidents, including incidents in the Air Force. The GAO placed the DOD’s contract management on its High Risk Series in 1992 due to weaknesses in five key areas: “sustained senior leadership, capable acquisition workforce, adequate pricing, appropriate contracting approaches and techniques, and sufficient contract surveillance” (GAO, 2006, p. 2). The GAO (2015) posted an update to its *Report to Congressional*



Committees on High-Risk Series in February 2015, stating that the DOD has partially met the criteria in each of these areas. However, the DOD remains on the high-risk list for the areas that must still be improved. Furthermore, DODIG continues to identify fraud indicators in various phases of the contract management process (DODIG, 2015).

The second component of the auditability triangle requires a capable contract management process. These processes are in place to make sure that the government provides companies a fair opportunity to be awarded a contract and ensure that the taxpayers' money is managed properly. The next section covers the contract management process.

C. CONTRACT MANAGEMENT PROCESS

Contract management consists of both the buying (government) and selling (contractor) entities and involves specific roles and responsibilities pertaining to each. The interaction between these entities to obtain supplies and services is controlled by the contract management process. This section defines the phases of the contract management process from the buyer's perspective. This includes procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout (Rendon & Snider, 2008).

1. Procurement Planning

Procurement planning involves “the process of identifying which business needs can be best met by procuring products or services outside the organization” (Rendon & Snider, 2008, pp. 165–166). The Federal Acquisition Regulation (FAR) (2015) requires each agency to perform acquisition strategy planning. The agency determines whether procurement is the right option, how to obtain the supply or service, what supply or service to buy, the quantities to buy, and the right time to procure. Some of the critical steps involved in procurement planning include “defining the requirement (supply or service to procure) in a statement of work (SOW), and performance work statement (PWS); and conducting market research” (Rendon & Snider, 2008, p. 166). These steps are covered in detail in the following subsections.



a. *Defining the Requirement*

The most important part of procurement planning is defining the requirement. Contracting officers work with government customers to determine what exactly the government needs to execute the mission. According to Cibinic, Nash, and Yukins (2011), agencies must describe the government's needs in terms of the following: "function, so that a variety of products or services may qualify; performance, including specifications of the range of acceptable characteristics or minimum acceptable standards; or design requirements" (p. 363).

During requirements definition, it is critical that requirements owners identify how the requirement was obtained or fulfilled in the past and how long the requirement will be needed (Chang, 2013). Furthermore, some additional areas that must be considered include whether the organization will perform the function internally, externally, or both. This is referred to as the make or "buy decision" (Chang, 2013). Finally, if the organization determines that the requirement should be fulfilled externally, requirements owners should identify if the requirement can be fulfilled by another government organization or if they will have to execute a contract with a private contractor (Chang, 2013). Answering these questions will focus the acquisition team towards the best method for contracting and move the requirement through the process.

b. *Conducting Market Research*

Once the agency has defined its requirement, market research must be conducted to determine the way forward. The FAR defines market research as "collecting and analyzing information about capabilities within the market to satisfy agency needs" (FAR 2.101, 2015). The extent to which market research is conducted depends largely on the following factors: intricacy of the requirement, urgency, and anticipated dollar value of the requirement. Methods of market research include reviewing catalog prices, and comparing previous acquisition history (FAR 15.201). In addition, market research also includes conducting pre-solicitation conferences with potential bidders, issuing draft solicitations with draft SOW (covered in the next section), issuing requests for information on the government point of entry, and issuing a sources-sought synopsis, etc.



(FAR 15.201). Market research also reveals whether commercial or nondevelopmental items could fulfill the government's requirement and whether there are large or small businesses that can perform the work or supply the items (FAR 10.001).

c. Developing Requirements Documents

Once the agency has defined the requirement adequately, the information is captured on documents that will become part of the solicitation package upon which the industry will bid. The type of document describing the agency's need issued to vendors will depend on the complexity and associated risk. Rendon and Snider (2008) identified government specifications, statements of objectives (SOOs), SOWs, and PWSs as requirements documents. The following is a list of various types of requirements documents as stated in the sources indicated:

Specifications describes the technical requirements for items, materials and services, including the procedures by which it will be determined the requirements have been met. Specifications can be design or performance specifications (Rendon & Snider, 2008, p, 167).

Statement of Objectives (SOO) outlines required performance objectives and is used to give the contractor maximum flexibility to meet the requirement (FAR 2.101).

Statement of Work (SOW) provides all nonspecification requirements for contractor's efforts either directly or with use of specific cited documents (Rendon & Snider, 2008, p, 167).

Performance Work Statement (PWS) means a statement of work for performance-based acquisitions that describes the required results in clear, specific and objective terms with measurable outcomes (FAR 2.101).

Procurement planning sets the stage for the rest of the acquisition process. This phase can be quite lengthy and if "a procurement is not well planned; it can lead to numerous problems that waste the time and funds of the government and offerors" (Cibinic et al., 2011, p. 279).



2. Solicitation Planning

Solicitation planning involves compiling documents for the solicitation. During this phase, the procurement team determines the appropriate procurement method and contract type, develops the solicitation document, develops proposal evaluation criteria, structures contract terms and conditions, and finalizes requirements documents (Rendon & Snider, 2008).

a. Procurement Methods

In federal contracting, specific dollar thresholds determine the procedures used in awarding contracts. Micro-purchase transactions (less than \$3,500) are typically handled by delegated cardholders using the Government-wide Purchase Card (GPC) (FAR 13.003; 13.201). Simplified acquisition procedures (SAP) are designed to streamline purchases between \$3,500 and \$150,000 (FAR 13.003). SAP may be used for commercial items up to \$7 million. In times of emergency or contingencies, these thresholds may be raised (FAR 13.5).

The two primary procurement methods prescribed by the FAR are sealed bidding and contracting by negotiations for any acquisition anticipated to exceed \$150,000. Any contract action that does not use sealed bidding is considered a negotiated contract. Under FAR Part 14, sealed bidding is explained as “a method of contracting that employs competitive bids, public opening of bids, and awards” (FAR 14.101). As Hearn (2011) observed, sealed bidding should be used when

there is a complete, detailed and realistic specification or purchase description; there are two or more suppliers available, willing, and able to compete effectively for the government’s business; selection of the successful bidder can be made, without discussions of the bid, on the basis of price or price-related factors alone; enough time is available to prepare a complete statement of the government’s needs; and the terms under which it will do business (i.e., the solicitation) and to permit bid submission and evaluation (Hearn, 2011, p. 61).

Contracting by negotiations under FAR Part 15 allows the government to consider factors other than price to achieve best value. The contracting officer will choose one of these methods on a best value continuum based on the complexity and risk of the



acquisition. Lowest Price Technically Acceptable (LPTA) is utilized when the requirements are clearly defined, and price is the most important factor (Chang, 2013). The government may also consider using tradeoffs when quality and past performance are more important. Regardless of the procurement method, the government has a preference for full and open competition.

An integral part of the selection of the procurement method is this preference for full and open competition. The Competition in Contracting Act of 1984 (CICA) directs government agencies to compete requirements to the maximum extent practicable (FAR 6.101). Competition encourages innovation, unique solutions, and the best prices. The FAR does allow seven exceptions for the government to restrict competition if it is in the best interest to do so. The exceptions are only one responsible source, unusual and compelling urgency, industrial mobilization, international agreements, authorized or required by statute, interest of national security, or in the public's best interest (10 U.S.C. § 2304, 2007; 41 U.S.C. § 3304, 2012; FAR 6.302).

b. Contract Type and Structure

In federal procurement, pricing arrangements can be categorized into two broad categories: cost-reimbursement contracts where the contractor is reimbursed for all allowable, allocable, and reasonable costs and fixed-price contracts where the government pays a specific price in the execution of the requirements (Cibinic et al., 2011). The range of contracts gives the government flexibility in meeting the mission while providing fair compensation to contractors for the work performed.

FAR 16.101 outlines the several factors that must be taken into consideration when determining the appropriate contract type for a given procurement. The primary factor to consider is risk. Fixed-price contracts should be used when requirements can be clearly defined and costs can be easily managed. From the perspective of the government, fixed-price contracts are the least risky because the contractor will only be paid for the negotiated amount for completed and delivered work (Cibinic et al., 2011). Cost-reimbursement contracts are the riskiest contract type to the government because the government will ultimately pay the contractor for all allowable costs, regardless of



whether or not the contractor's costs exceed the negotiated estimates. The government prefers the use of fixed-price contracts because it is only responsible for paying a set price, regardless of whether or not the contractor overruns the cost estimate. Fixed-price contracts place the majority of the risk on the contractor.

Depending on the type of cost-reimbursement contract, the government will also pay an associated fee based on a percentage of the estimated cost. Cost-plus fixed fee (CPFF) contracts have statutory limits on the amount of fee a contractor can receive (6 percent for architecture and engineering, 15 percent for research and development, 10 percent for all others) (10 U.S.C. § 2306(d), 2014; 41 U.S.C. § 3905, 2014; & FAR 15.404). Once the target cost and fee percentage are agreed to, the fee percentage is incorporated as a fixed dollar amount. Incentive contracts, either cost-reimbursement or fixed-price, offer contractors a higher or lower percentage fee based on performance and delivery time (Chang, 2013). A fee adjustment formula is applied at the end of the contract based on the actual cost incurred that is allowable under the contract.

In addition to contract types, the government also uses different contract instruments that incorporate both fixed-price and cost-type contracts. Sometimes it is difficult for the government to adequately estimate the exact quantities, delivery times, and/or period of performance. In those instances, the government utilizes indefinite delivery indefinite quantity (IDIQ) contracts or blanket purchase agreements (BPAs), thereby providing flexibility to meet fluctuating government demands.

c. Proposal Evaluation Criteria

Development of proposal evaluation criteria is a critical part of the contract management process. This criterion is explicitly stated in the solicitation and describes to the offerors what makes a proposal most advantageous to the government. FAR 15.304 prescribes the two primary categories the government should evaluate during source selection: price or cost and the quality of the product or service. Furthermore, according to FAR 15.304(c)(3)(i), unless the contracting officer provides adequate documentation, past performance shall be evaluated in all procurements above the simplified acquisition threshold (SAT).



The depth of analyses will depend on the nature of the procurement; however, the contracting officer must determine whether the proposed price or cost is fair and reasonable. Cost or price is not always the most important factor when selecting the right contractor; however, senior DOD acquisition leaders continue to demand affordability from contractors and rein in the perceived out-of-control wasteful spending. The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]), Frank Kendall, issued the *Better Buying Power 3.0 White Paper*, dated September 19, 2014. This third iteration of *Better Buying Power* continues the precedence of setting and enforcing affordability constraints as well as selecting the appropriate contract type for the procurement. One way to ensure the government meets affordability goals is to develop strong evaluation criteria and to select the appropriate contract type based on conducting thorough market research and adequate risk assessments.

The evaluation criteria will gauge whether a proposed offer can fulfill the government's requirement. As previously mentioned, the government may use any procurement method under the best value continuum. If the government utilizes an LPTA source selection method, then the contract will be awarded to the offeror whose proposal is the lowest priced that is deemed technically acceptable. If the government chooses to evaluate proposals under a tradeoff, then, according to FAR 15.10-1(a)(2), the solicitation must state whether "all evaluation factors other than cost or price, when combined, are significantly more important than, approximately equal to, or significantly less important than cost or price."

3. Solicitation

The solicitation phase consists of formally posting the government's requirement on the government point of entry (an electronic website) for industry to submit proposals that can satisfy the government's needs. Prior to solicitation release, the government may hold a pre-solicitation conference with potential offerors to receive feedback or clarify draft requirements documents. The next section covers the pre-proposal conference and advertising requirements.



a. *Pre-Proposal Conference*

Pre-proposal conferences (sometimes called industry days) can be a valuable practice to ensure all parties clearly understand the requirement and reduce problems during the source selection and future contract administration. Early engagement and free flow of information is highly encouraged under FAR 15.201 and *Better Buying Power 3.0*. Offerors will often have specific questions that they do not wish to ask in front of their competitors; therefore, offerors should be given one-on-one time. The government should be careful not to violate the Procurement Integrity Act, which prohibits giving an offeror an unfair competitive advantage (41 U.S.C. § 423, 1994; FAR 3.104). All questions received from offerors should be consolidated, generalized, and shared with all potential offerors.

b. *Advertising Requirements*

FAR Part 5 governs the process of posting all federal contract actions. Contract actions valued greater than \$25,000 must be advertised on the government point of entry (GPE) website unless an exception under FAR 5.202 exists. The GPE is where the government posts requests for information (RFIs), sources sought synopses, requests for quotes (RFQs), and requests for proposals (RFPs). Planned contract actions between \$15,000 and \$25,000 may be advertised via alternative means including phone calls, paid advertisements, and distributing handouts (FAR 5.101). Agencies advertise government requirements in order to provide a fair opportunity to potential offerors to fulfill the requirement and maximize competition to obtain the best solutions and pricing. Contracting officers are required to post notices of contract actions 15 days prior to execution and allow a minimum of 30 days for a response time.

4. Source Selection

Source selection is the formal process of selecting the right offeror's proposal that can best fulfill the government's need in accordance with the terms and conditions outlined in the request for proposal/solicitation. During this phase, the government will conduct formal communications with the offerors with the intent of understanding and



improving the proposals. The areas covered in this section are the source selection organization, evaluation of proposals, and formal communication with offerors.

a. Source Selection Organization

The source selection organization encompasses the Source Selection Authority (SSA), Source Selection Evaluation Board (SSEB), Source Selection Advisory Council (SSAC), and other advisors (Chang, 2013; OUSD[AT&L], 2011). The *Department of Defense Source Selection Procedures* handbook outlines the roles and responsibilities of the aforementioned organizations. For actions up to \$100 million, the contracting officer is the SSA unless the agency head or designee appoints another individual. The SSA is responsible for protecting the integrity of the process in accordance with all of the applicable statutes. The SSEB is composed of individuals from different disciplines to evaluate proposals against the evaluation factors outlined in the RFP. The SSAC reviews the SSEB's evaluation and provides a recommendation to the SSA. Non-government advisory and assistance contractors may serve on an SSEB; however, evaluation of an offeror's past performance is an inherently governmental function and may not be performed by non-governmental personnel (FAR 7.5; OUSD[AT&L], 2011). The contracting officer is charged with ensuring the evaluation is followed in accordance with the RFP and all applicable statutes and regulations and acts as the overall business advisor throughout the process.

b. Evaluation of Proposals

The SSEB evaluates an offeror's technical proposal against the evaluation criteria, which consists of factors and subfactors identified in the RFP. As stated in FAR 15.305(a), "Evaluations may be conducted using any rating method or combination of methods including color or adjectival ratings, numerical weights, and ordinal rankings." The SSEB may not rank the proposals or compare proposals against each other unless the SSA requests the SSEB to provide a recommendation. Furthermore, the SSEB may not evaluate proposals against factors and subfactors not explicitly stated in the RFP. The SSA has the primary responsibility of selecting the awardee based on the recommendation of the SSAC (if applicable). The SSA is not bound by the



recommendations of the SSEB or SSAC; therefore, it can choose a different offeror as long as the decision is documented and justifiable (Cibinic et al., 2011).

c. Communications with Offerors

Once proposals are received, exchanges with offerors become restricted to two types of communication: clarifications and discussions/negotiations. FAR 15.306(a)(1) states that clarifications are limited exchanges with offerors when the government intends to award the contract without discussions. Clarifications may take place to help the government understand an offeror's proposal or correct minor error that are clerical in nature (FAR 15.306(a)). The contractor may not revise the technical proposal or price under clarifications. Discussions or negotiations take place when there are major areas of weakness or deficiencies that must be addressed. If the government decides to conduct discussions with an offeror, then all offerors within the competitive range are entitled to discussions and may revise their proposals accordingly to document the negotiated changes. The competitive range is defined as "the range of proposals that are identified as the most highly rated, unless the range is reduced for purposes of efficiency" (FAR 15.306).

5. Contract Administration

Contract administration takes place after the award of the contract. This phase entails monitoring the contractor's performance in accordance with the SOW, modifying the contract as necessary, and providing payment to the contractor upon delivery of the goods or services (Chang, 2013).

a. Monitoring and Measuring Performance

Once the contract has been awarded, the government must effectively monitor the contractor's performance, verifying the contractor's work results meet the cost, schedule, and performance criterion agreed to in the contract (Rendon & Snider, 2008). If the contract is for a supply item, then monitoring and measuring performance entails inspecting the item upon delivery and verifying it meets the contract standards for quality and timely delivery. Service contracts require more in-depth monitoring. This can be



accomplished through the use of administrative contracting officers (ACOs) and contracting officer representatives (CORs) to document the contractor's performance. Measuring performance often requires quantifiable data to support claims about work performed. One such tool Earned Value Management (EVM), the practice of measuring actual performance over the lifetime of the contract against an integrated baseline (Rendon & Snider, 2008). EVM serves as an early warning tool that can prevent problems before it is too late.

b. Contract Modifications

Despite all the best efforts to clearly state the requirements, communicate with industry, and conduct market research, many contracts require changes after the contract is awarded due to differences in interpretation and shifting government missions. The FAR allows the contract to be modified as necessary to ensure the government's mission is accomplished; however, there are limits to utilizing various changes clauses. First, the proposed change to the contract must be considered within the scope of the contract; otherwise, the requirement would need to be a new procurement. There is no official definition of what is "within scope" of a contract; however, scope is generally defined as anything that was originally contemplated at the time of the award or reasonably expected within the type of work (Chang, 2013). There are two types of modifications: unilateral, which *do not* require the contractor to agree to the change before performing the new work; and bilateral, which *do* require the contractor to agree to the change before executing the new work (FAR 43.103). In both instances, the contractor is entitled to an equitable adjustment.

c. Payment and Invoices

As Kendall's white paper stated, "profit is the reason that the firms we rely upon, exist" (OUSD[AT&L], 2014, p. 4). Contractors should be paid for work performed in a timely manner. Some contracts only require a single payment at the end of the contract, while others have recurring invoices. Before a contracting officer approves the invoice, the officer must determine that the work was performed satisfactorily and that the costs



are allowable under the terms of the contract. The FAR also allows progress payments under fixed-price contracts for up to 80 percent of the costs incurred (FAR 32.501-1).

6. Contract Closeout / Termination

There are three ways a contract can end: successful completion, termination for convenience, or termination for default/cause (Rendon & Snider, 2008). This is the final phase of the contract management process. The following sections describe contract closeout and termination and the procedures involved.

a. Closeout

Contract closeout is the administrative process of ensuring the government's needs have been fulfilled in accordance with the contract and the contractor has received the final payment upon completion. Contract closeout procedures involve handling the disposition of government-furnished property, final acceptance of goods or services, final payment to the contractor, and documenting the contractor's final past-performance report. The contract is considered physically completed when the contracting officer issues the contractor a written notice of complete contract termination (Rendon & Snider, 2008; FAR 4.804-4). In accordance with agency requirements for record management and FAR 4.805, contract files must be retained for up to six years in case disputes arise.

b. Terminations

The government may unilaterally terminate any contract before completion if it is in the best interest to do so (FAR 2.101). Some reasons the government may terminate a contract for convenience are changes in the organization's mission, budgets, or technology. Under a termination for convenience, the contractor receives payment for completed work, deliveries made, and any allowable costs incurred. Terminations for convenience do not negatively affect a contractor's past performance rating. Terminations for default (termination for cause if it is a commercial contract) are utilized when a contractor is in violation of the terms and conditions and fails to correct the deficiencies. Terminations for default have negative impacts on future contracts where past performance is evaluated. The government is not obligated to pay for work in



progress or work deemed unacceptable in a termination for default, but the government is required to pay for work in progress in a termination for convenience.

7. Process Capability

The contract management process is in place to ensure the government provides fair opportunity to businesses that wish to provide the government with supplies or services. According to the auditability principles, the contract management process should be institutionalized, monitored, and improved (Rendon & Rendon, 2015). According to Rendon's Contract Management Maturity Model (CMMM), the DOD's processes may not be as mature as they should be (2008). The CMMM is a "visual tool to help public procurement organizations assess the major steps which they must accomplish when procuring supplies, services, or integrated solutions" (Rendon, 2008, p. 205). The CMMM was applied to the Air Force's Space and Missile Center (SMC) at Los Angeles Air Force Base and to Navy contracting agencies and other defense agencies (Rendon, 2008; Rendon, 2015). Generally, based on assessments using the CMMM, process capability is higher for the pre-award phases of procurement planning, solicitation planning, solicitation, and source selection and lower for the post-award phases of contract administration and contract closeout (Rendon, 2015).

If the DOD's contract management process is not capable, the government lacks auditability, and therefore, becomes vulnerable to procurement fraud schemes (Rendon, 2015). The next section covers the procurement fraud schemes that are integrated with the contract management process.

D. PROCUREMENT FRAUD SCHEMES

Instances of procurement fraud, such as the Glenn Defense Marine Asia (GDMA) case mentioned previously, happen far too often. The major procurement fraud categories common in federal contracting include the following: collusion, conflict of interest, bid-rigging, billing/cost/pricing schemes, fraudulent purchases, and fraudulent representation. GDMA utilized all of these procurement fraud categories. These categories can be subdivided further into specific schemes, which are covered in detail in the following subsections.



1. Collusion

The DODIG defines collusion as “an agreement between two or more people to participate in illegal activity for profit” (DODIG, 2015). Collusion, in the present context, involves schemes between industry and government officials to bypass the procurement standards set forth by the FAR and other policies, guidance, and procedures. According to the General Services Administration Office of the Inspector General (GSA OIG), collusion can occur when competitors set minimum prices that they agree not to sell below a specific threshold, set prices they will charge, or reduce or eliminate discounts (GSA OIG, 2012). Collusion reduces competition and can be difficult to identify, especially when there are no written documents to investigate.

Specific fraud schemes under collusion include bribery, kickbacks, and split purchases. The ACFE defines bribery as “offering, giving, receiving, or soliciting anything of value to influence an official act or business decision” (Feldman, 2015, p. 7). The FAR defines a kickback as “any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided to any prime contractor/subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract” (FAR 3.502-1). In the GDMA, the Navy accused Francis of offering Navy procurement officials and other military personnel large sums of money, concert tickets, luxury travel, and prostitutes in exchange for information on specific ship schedules and to reward Navy officials for awarding the contract to GDMA (Adams, 2015). Details continue to emerge regarding the case. Vona (2011) delineated bribery from kickbacks. According to Vona (2011), bribery is considered affecting a person’s judgment, whereas a kickback seeks to affect the management of a process.

According to FAR 13.003(c)(2), splitting purchases are accomplished by separating the acquisition of requirements so the cost of each action is below a specific dollar threshold. Split purchases under collusion usually involve scheming to avoid specific dollar thresholds and circumvent the contract management process that would drive additional requirements for competition, oversight, or justification.



2. Conflict of Interest

In federal procurement, there are two kinds of conflict of interest, organizational and personal. According to the FAR, an organizational conflict of interest occurs when “a person is unable or potentially unable to render impartial assistance or advice to the Government or the persons’ objectivity in performing the contract work is or might be otherwise impaired or a person has an unfair competitive advantage” (FAR 2.101). A firm may have an organizational conflict of interest if there is an employee working on the government team to develop a requirement upon which that firm intends to bid. That firm may be seen as having a competitive advantage. A personal conflict of interest occurs when an employee of a particular organization has “an undisclosed legal ownership or beneficial interest in a related entity” (Vona, 2011, p. 37). Personal conflicts of interest can be difficult to detect because investigators rely on individuals to provide truthful statements. Government acquisition professionals are required to complete the Office of Government Ethics (OGE) Form 450 and disclose pertinent financial information including stocks, loans, other sources of income, and outside employment about themselves or close relatives.

Conflict of interest schemes may arise during the source selection phase of the contract management process. For example, a government engineer working on a program was selected to serve on the source selection evaluation board. The engineer has a significant financial interest in the form of investments in one of the companies that is competing for the award of a contract. In this case, the engineer has a personal conflict of interest and may not may participate in the source selection because his decision ability may be influenced by his financial ties to the company (Office of Government Ethics, n.d.).

3. Bid Rigging

Bid rigging is similar to collusion in that it involves an agreement with a deceitful intent and can take on many forms (Federal Trade Commission, n.d.). Bid rigging is commonly seen between organizations, end users, or procurement officials and used to undermine and corrupt the competitive procurement process. These parties conspire amongst themselves to determine which organization will submit the best proposal to be ultimately



chosen by the government (Vona, 2011). Government requirements owners can rig the process by tailoring SOWs so a specific offeror receives the contract, creating false requirements, or by separating the requirement into multiple actions to stay under procurement thresholds and avoid FAR competition requirements. Instances of procuring officials rigging the process include biased evaluation of a vendor proposal, deliberately leaking proprietary or source selection sensitive information to preferred suppliers, or restricting competition artificially (e.g., sole-source award instead of full and open competition) (Chang, 2013). Corruption from the offerors involves an agreement on who will be the winning bidder: “The [purchasing office], which depends on competition between the bidders to generate the lowest competitive price, receives instead a ‘lowest bid’ that is higher than the competitive market would bear” (Department of Justice, n.d., p. 2).

4. Billing / Cost / Pricing Schemes

Billing/cost/pricing fraud schemes encompass a range of activity, but the overall theme is willful distortion of financial data. The FAR Part 31 outlines contract cost principles and procedures and states that costs must be allowable, allocable, and reasonable (FAR 31.201-2–4). Cost mischarging is a violation of the allowable and allocable rules that involve charging costs not related to the execution of a particular contract. For a cost to be allocable, it must be traceable to the performance of that particular contract or otherwise be included in the overhead costs. Some indicators of mischarging costs include the following: costs billed under time and materials (T&M) contracts greatly exceed estimates; proposed costs do not appear to be directly related to the contract under which they are submitted; material quantities are exorbitantly higher than contract requirements; and labor time and charges seem inconsistent with project progress (GSA OIG, 2012). Under the Truth in Negotiations Act (TINA), contractors are required to submit and certify that all costs are current, accurate, and complete to the best of their knowledge (FAR 15.406-2). Defective pricing occurs when it is discovered that the cost or pricing data submitted were inaccurate, incomplete, or noncurrent. If the contractor knowingly submitted the defective pricing, the government is entitled to an amount equal to any over-payment.



Karpoff, Lee, and Vandrzyk's (1999) study, "Defense Procurement Fraud, Penalties, and Contractor Influence" noted that

even though contracts typically specify prices, contract prices commonly are subjected to a process of almost continual renegotiation and revision. It is the perception that contractors can extract abnormal profits at this stage of the process that motivates many of the DOD's procurement rules (p. 811).

This is an example of how change order abuse can occur. Change order abuse occurs when a contractor colludes with a procurement official and submits a proposal at a low price to win the contract with the intent to drive the price back up once the contract is awarded through the submission of requests for equitable adjustments (REAs) (DODIG, n.d.). Another fraudulent practice within billing/cost/pricing schemes is fictitious or sham transactions (Vona, 2011). This scheme can involve the contractor, government personnel, or both working together. By submitting false invoices, the contractor is overpaid. The government buyer who approved the invoice could be in on the scheme and receive a kickback.

5. Fraudulent Purchases

Fraudulent purchases involve acquiring material in excess of government requirements (Chang, 2013). This can involve government employees using a government purchase card for personal usage or purchasing items that are within the scope of their job, but selling the items for personal benefit. Employees accomplish this by falsifying purchase documentation to appear legitimate (Vona, 2011). Fraudulent purchases can also involve collusion between contractors and government customers conspiring to purchase quantities above the contract requirements.

6. Fraudulent Representation

Fraudulent Representation involves deceiving the government by the distortion of goods and services that fail to meet quality standards demanded by the contract. As stated in 18 U.S.C. § 1001 (1996), False Statements, it is illegal to

(1) Knowingly falsify, conceal, or cover up a material fact by any trick, scheme, or device



(2) Make false, fictitious, or fraudulent statements or representations

(3) Make or use any false document or writing within the jurisdiction of any department or agency of the U.S.

Examples of this type of fraud scheme include a contractor providing low-grade materials for a radar tower that fails to withstand minimum wind gusts specified in the contract or using low quality replacement parts that continue to break. Similarly, “product substitution” is when a contractor provides a product other than what is specified in the contract and fails to inform the government of the substitution (DODIG, n.d.). The next section discusses the third component of the auditability triangle, which is having competent people.

E. COMPETENT PEOPLE

The DOD assigns specific personnel classification codes to acquisition professionals. For the DOD, having competent people means acquisition-coded professionals have the right education, training, and experience requirements in accordance with the Defense Acquisition Workforce Improvement Act (DAWIA) requirements. DAWIA applies to DOD personnel in the following career fields: auditing, cost-estimating, contracting, financial management, engineering, life-cycle logistics, industrial/contract property management, information technology, purchasing, production/quality/manufacturing, program management, facilities engineering, science and technology management, and test and evaluation (DAU, 2015; Rendon & Snider, 2008). DOD personnel in those billets are required to earn and maintain certifications in those areas through a combination of in-residence and online training courses, as well as on-the-job experience related to the specific certification. This training is provided mainly through the Defense Acquisition University (DAU). In order to maintain a level of certification from DAU, personnel must earn 80 hours of continuous learning points every two years (DAU, 2015).

Part of having competent people in procurement includes being knowledgeable not just in specific functional areas, but also in procurement fraud schemes. Recent research on the contracting workforce shows that contracting officers may not have



sufficient knowledge on procurement fraud schemes. Chang's (2013) research found that contracting personnel at the Army's MICC were not as knowledgeable of procurement fraud schemes despite having rated themselves as very knowledgeable. Castillo and Flanigan (2014) conducted similar research that yielded similar results among contracting personnel at the Air Force Nuclear Weapons Center. Other professionals involved in procurement, such as the customer defining a government requirement, might not specifically be acquisition-coded; therefore, they do not fall under DAWIA standards for training. However, these professionals should be trained in the contract management process. Additionally, personnel responsible for investigating contract fraud should be trained to identify the various fraud schemes that can occur throughout the contract management process. In order to identify contract fraud, investigators must be familiar with the contract management process. The purpose of this research is to assess AFOSI's procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in these areas.

Many contractors have exploited the DOD's fraud vulnerability and government personnel who have chosen to take advantage of weaknesses in the system. Ineffective internal controls, less than capable contracting processes, and less than competent people have contributed to the fraud, waste, and abuse. When these instances occur, the government must respond by aggressively investigating such allegations and prosecuting those responsible for the fraudulent activities. In the Air Force, this burden falls upon AFOSI as the primary investigating agency for allegations of procurement fraud (AFOSI Public Affairs Office, 2011). In fact, AFOSI was founded as a result of a procurement fraud investigation and charged with the mission to "identify, exploit and neutralize criminal, terrorist and intelligence threats to the Air Force, Department of Defense and U.S. Government" (AFOSI Public Affairs Office, 2011; Hagerty, 2008, pp. 10–11).

F. SUMMARY

This chapter presented a brief synopsis of the DOD procurement fraud environment, which included a general discussion of the auditability triangle. A detailed



description of the contract management process was also presented as well as the major procurement fraud schemes that are common in federal contracting. Finally, this chapter discussed the “competent people” component of the auditability triangle, which is the focus of this research. The present research assesses AFOSI investigators’ knowledge of the contract management process. In the following chapter, Chapter III, a description of AFOSI and its capabilities build the necessary foundation for this research.



III. AIR FORCE OFFICE OF SPECIAL INVESTIGATIONS

A. INTRODUCTION

This chapter provides a background of the Air Force Office of Special Investigations (AFOSI). An overview of the Air Force and how Air Force Acquisition supports the bigger Air Force mission is discussed. The propensity for fraud to occur throughout the acquisition life cycle is also identified. This chapter provides a detailed look at AFOSI and the organization's history, mission, organizational structure, and focus as a Military Criminal Investigation Organization (MCIO) within the Air Force. Additionally, this research examines the training requirements associated with the contract management process for AFOSI agents specializing in the investigation of procurement fraud.

B. AIR FORCE OVERVIEW

Since its establishment in 1947, the Air Force has been a separate military service with distinct roles and missions in support of “airpower” (U.S. Air Force, 2013). Although the original mission of the Air Force was primarily for preserving the security of the skies after World War II, the mission has since expanded in scope. Today, the Air Force must maintain a force capable of executing full-spectrum military operations (Department of the Air Force (DAF) (2014). The Air Force accomplishes this through “five core missions: 1) air and space superiority; 2) intelligence, surveillance, and reconnaissance (ISR); 3) rapid global mobility; 4) global strike; and 5) command and control (C2)” (DAF, 2014, p. 4; DAF, 2015, p. 6). These missions allow the Air Force to maintain “*Global Vigilance, Global Reach, and Global Power*” (DAF, 2015, p. 6) throughout the domains of air, space, or cyberspace. Such a dynamic mission requires state-of-the-art technology as well as superior logistical support to maintain a competitive edge over adversaries regardless of the operating environment. These five core missions also guide how the Air Force invests its resources (DAF, 2014).



1. Air Force Budget

Maintaining this standard of dominance is challenging and forces the Air Force to continually invest in an array of new technology through research, development, test, & evaluation (RDT&E) programs. At the same time, the Air Force must also procure supplies and services necessary to support existing systems, equipment, and personnel. Most of the funds expended for acquisitions supporting these requirements are performed through the use of contracts between the Air Force and private industry. According to the Office of Management and Budget (OMB) (2014), in fiscal year (FY) 2015, the federal government budgeted \$495.6 billion for the Department of Defense (DOD). The majority of this funding was to provide for day-to-day operations such as military pay and healthcare benefits. One-third, or approximately \$159.3 billion, was for the procurement of future defense needs (DOD, 2014). Table 1 shows how the FY2015 DOD budget was divided among the military departments, while Figure 1 shows a visual depiction of the distribution.

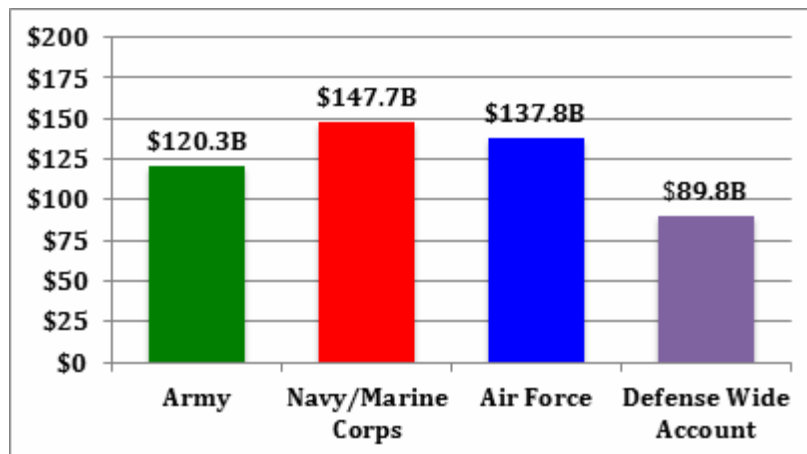
Table 1. DOD Base Budget by Military Department in FY2015

Base Budget	FY2015
Army	\$120.3B
Navy/Marine Corps	\$147.7B
Air Force	\$137.8B
Defense Wide Account	\$89.8B
Total	\$495.6B

Numbers may not add due to rounding. Adapted from Office of the Under Secretary of Defense Comptroller (OUSDC). (2014). *United States Department of Defense fiscal year 2015 budget request*, p. 115. Retrieved from http://comptroller.defense.gov/Portals/45/documents/defbudget/fy2015/fy2015_budget_request_overview_book.pdf



Figure 1. DOD Budget by Military Department in FY2015



Adapted from OUSD[C]. (2014). *United States Department of Defense fiscal year 2015 budget request*, p. 115. Retrieved from http://comptroller.defense.gov/Portals/45/documents/defbudget/fy2015/fy2015_budget_request_overview_book.pdf

The Air Force's FY2015 budget of \$137.8 billion was allocated in accordance with its core missions to the specific appropriations to the following areas: military personnel, operations and maintenance (O&M), procurement, RDT&E, military construction (MILCON), military family housing (MFH), and base realignment and closure (BRAC) (Secretary of the Air Force for Financial Management [SAF/FM], 2014). Funds that were allocated from the Air Force budget were categorized as "blue," while funds that were controlled by agencies other than the Air Force were "non-blue," and the combination of these two sources made up the total Air Force FY2015 budget (SAF/FM, 2014).

a. Military Personnel

Approximately \$29.1 billion was appropriated to support the total force, made up of active duty personnel, reservists, and Air National Guardsmen (SAF/FM, 2014). This funding was used to provide military pay and allowances, training, recruiting efforts, permanent change of station, and other forms of military compensation. An additional \$4.9 billion in non-blue funds was also appropriated for military personnel (MILPERS) (SAF/FM, 2014).

b. Operation and Maintenance

Approximately \$44.3 billion was used to execute daily operations at 79 military Air Force installations around the world (SAF/FM 2014). O&M funds enable active, reserve, and National Guard Air Force units worldwide to maintain a constant state of readiness through flying operations, maintenance and support activities, equipment, and supplies for the warfighter, ISR, civilian personnel pay, sustainment, space operations, etc. An additional \$869 million in non-blue funds was also appropriated for O&M (SAF/FM 2014).

c. Procurement

In FY2015, the Air Force allocated \$18.5 billion for procurement. Funds appropriated for procurement enable the Air Force to obtain and maintain its inventory of aircraft, missiles, ammunition, weapons, and other combat systems (SAF/FM, 2014). These funds also allow the Air Force the ability to maintain the military advantage of air and space supremacy by acquiring the next generation of defense system technology. In addition to the funds allocated from the Air Force's budget, an additional \$14.9 billion was allocated for procurement from non-blue sources (SAF/FM, 2014).

d. Research, Development, Test, and Evaluation

As the adversaries of the United States attempt to identify and exploit system weaknesses, the military must respond by closing the gaps and further advancing technology. This is done through RDT&E, where funds are used to research, develop, test, and evaluate next-generation capabilities for the Air Force of tomorrow. In an attempt to continue developing new technology, the Air Force appropriated \$15.9 billion in FY2015 to RDT&E, which provides for basic and applied scientific research, advanced technology development, testing, and the required support for such programs (SAF/FM, 2014). According to the *Department of Defense Financial Management Regulation*, DOD 7000.14-R, Volume 2B, Chapter 5, basic research is a general study into an area in order to gain a general understanding of the area (2012). At the basic research level, there is no application of the research. Conversely, in applied research, researchers are aiming to apply previously ascertained knowledge to develop new technology and solve a particular



need (OUSD[C], 2012). “Advanced technology development” is where researchers attempt to integrate several areas of knowledge together in order to develop a system that can be tested for future use in the field (OUSD[C], 2012). An additional \$7.8 billion in non-blue funds was also appropriated for RDT&E (SAF/FM, 2014).

e. Military Construction

As the Air Force approaches 68 years as the air arm of the military, it must also repair and update an aging infrastructure as well as construct new facilities to store existing and new technology. This is executed through MILCON appropriations, and in FY2015, the Air Force dedicated \$956 million to update and construct facilities and infrastructure for the force (SAF/FM, 2014).

f. Military Family Housing

In FY2015, the Air Force appropriated \$328 million to the maintenance of existing military family housing. In addition, these funds were used for the design and construction of new housing units for personnel (SAF/FM, 2014).

g. Base Realignment and Closure

As Air Force installations become outdated and the size of the budget and force shrink, the Air Force must also consolidate and close installations that are no longer seen as suitable for military operations. Accordingly, the Air Force must transfer equipment and take other appropriate steps to vacate these areas. In FY2015, the Air Force allocated \$91 million for BRAC (SAF/FM, 2014).

In order to ensure the successful execution of its mission, the Air Force appropriated \$109.2 billion in blue funds and an additional \$28.6 billion in non-blue funds. In total, the Air Force allocated all of its \$137.8 billion across these strategic priorities (SAF/FM, 2014). Table 2 provides a consolidated snapshot of Air Force appropriations for FY2015 from both blue and non-blue funds.



Table 2. Air Force Total Obligation Authority (TOA) for FY2015

<u>Appropriation</u>	<u>FY 15 Budget*</u>
Military Personnel (MILPERS)	\$29.1B
Operation and Maintenance (O&M)	\$44.3B
Procurement	\$18.5B
Research, Development, Test & Evaluation (RDT&E)	\$16B
Military Construction (MILCON)	\$956M
Military Family Housing (MFH)	\$328M
Base Realignment and Closure (BRAC)	\$91M
Non-Blue TOA	\$28.6B
Total Obligation Authority (TOA)	137.8B

Numbers may not add due to rounding. Adapted from Secretary of the Air Force for Financial Management (SAF/FM). (2014). *U.S. Air Force FY 2015 budget overview*, p. 11. Retrieved from <http://www.saffm.hq.af.mil/shared/media/document/AFD-140304-039.pdf>

2. Air Force Procurement

In order to obtain the supplies and services necessary to execute their missions, requirements managers or end users turn to contracting officers. Other than the majority of the appropriations made for MILPERS, many of the Air Force requirements are obtained, at some level, through government contracts. With such a significant responsibility, contracting officers must take great care to comply with statutes and public policy. In addition, they must ensure contracts are accurate, complete, obtain a fair and reasonable price, and reduce the risk as much as possible to both the buyer and the seller.

To perform this task, contracting officers are governed through the contract management process by many different sources. Chief among these sources are mandates from federal statutes that may convolute the contract management process. These legislative policies includes the following:



- Defense Acquisition Workforce Improvement Act (DAWIA)
- Federal Acquisition Streamlining Act (FASA)
- Federal Acquisition Reform Act (FARA)
- Competition in Contracting Act (CICA)
- Truth in Negotiation Act (TINA)
- Small Business Act (SBA)
- Clinger-Cohen Act
- Walsh-Healey Act
- Davis-Bacon Act

In addition to congressional acts, the FAR is made up of 53 parts containing more than 2,000 pages of regulatory language in the form of definitions, clauses, and policy, all of which may be subject to conflicting interpretations. Air Force contracting officers must abide by further regulations, including the Defense Federal Acquisition Regulation (DFAR) and the Air Force Federal Acquisition Regulation (AFFAR). Finally, Air Force contracting officers operating in certain commands have command-specific guidance and policy in the form of the Air Force Material Command (AFMC) Mandatory Procedures/Informational Guidance and the Air Force Installation Contracting Agency (AFICA) Mandatory Procedures. While this list is not exhaustive, it does paint a small picture of the burden associated with government contracting.

The aforementioned acts and policies were intended to improve the acquisition process. Instead, many of these reforms have proven to be counterproductive and made it increasingly difficult to manage and oversee contracts effectively (as cited in Yoder, 2007). Making things more difficult is the reduction of personnel and the ensuing dwindling level of experience in the acquisition workforce (Yoder, 2007). Many government contracts are for developmental items, and these contracts are written with ambiguous requirements in order to give contractors flexibility and encourage innovation (Brown, Potoski, & Van Slyke, 2013). However, conflicting objectives between government and private industry produce an environment where the contractor can



behave defectively and take advantage of the government. Defective behavior is where one party within a contract acts for its own self-interest at the expense of the other party (Brown et al., 2013). The government, expecting a cooperative and trustworthy relationship with the contractor, is left exposed and extremely vulnerable to procurement fraud (Brown et al., 2013).

The Government Accountability Office (GAO) identified several challenges to effective contract management in the DOD (GAO, 2015). Although considerable improvements have been made with regard to the use of appropriate contracting methods, the GAO (2015) identified several inefficiencies within the areas of acquisition workforce, contracting techniques and approaches, service acquisitions, and operational contract support.

Specifically, the GAO (2015) found that the acquisition workforce and its leadership lacked proper training, experience, and capacity. The GAO also identified the lack of a proper strategy for executing service acquisitions and that acquisition personnel responsible for making decisions in this area were doing so without reliable data (GAO, 2015). The GAO also found insufficient policies for effective contingency contract management and that contracting agencies lacked the necessary personnel and resources to manage the volume of requirements. While considerable improvements have been made in recent years, it should be noted that these areas have been assessed as being high-risk since 1992 (GAO, 2015).

With such large amounts of funds being spent to procure supplies and services and the generally cumbersome nature associated with government contracting, government procurement is highly vulnerable to procurement fraud (HQ AFOSI/XRG, 2009). Procurement fraud within the Air Force or DOD is not a new problem and, while ensuring compliance to policies and regulations may assist with fraud prevention and increase transparency, these solutions alone do not prevent procurement fraud. Instead, fraudulent activity must be identified as early in the contract management process as possible, investigated effectively and efficiently, and prosecuted. It is for these reasons, that in 1948, the Air Force activated AFOSI and chartered it with the mission of investigating allegations of procurement fraud (Hagerty 2008, p. 26).



C. AIR FORCE OFFICE OF SPECIAL INVESTIGATIONS

At the conclusion of World War II, the use of aircraft proved to be essential to the future defense strategy of the United States. It quickly became apparent that the capability for air operations would need to expand. With the enactment of the National Security Act of 1947, the Army Air Force was deactivated and the Air Force was established as a separate and independent service (DAF, 2013). As the Air Force expanded with increased personnel and resources, it soon found itself in the wake of a corruption scandal involving an Air Force major general (Hagerty, 2008, pp. 7–8).

1. Background of AFOSI

According to an anonymous letter in 1945, Major General Bennet Meyers reviewed bids from contractors seeking government contracts and used knowledge from his position to purchase stock in companies that he knew would win a contract (Hagerty 2008, p. 3). Since the letter was anonymous, no further action was taken until several years later; however, General Meyers' professional conduct had come up during a Senate investigative committee, and when the committee requested Meyers' records, there were indications of a cover-up due to Meyers' rank and standing (Hagerty, 2008, pp. 5–7; Kunze, n.d.). The ensuing investigation disclosed several issues with the investigative arm of the Air Force.

At the time of the Meyers investigation, air inspectors were organized under the regular Air Force chain of command, so they were hesitant in their investigation of Meyers, fearing possible repercussions. This chain of command created a potential for undue command influence as senior leaders had the ability to restrict investigators' activity and deny access to relevant information (Hagerty, 2008, pp. 11–12). In addition, inspectors were bound by regulations to inform witnesses about the details and evidence of an ongoing investigation. This lack of secrecy impaired the investigators' ability to collect evidence, as the disclosure of sensitive case information could get back to a suspect, allowing the suspect to “cover up” criminal activity (Hagerty 2008, p. 12). Despite these issues, through the course of Senate hearings, enough evidence was obtained to enable prosecutors to convict Meyers on war profiteering charges, his role in



a contract scheme with ghost companies that he owned, and witness tampering (Hagerty, 2008, pp. 8–9).

In the aftermath of this high-profile investigation, it was evident that there were issues within the investigative body of the Air Force. For example, although operating in a law enforcement and investigative capacity, inspectors lacked the necessary authority to actually enforce laws (Hagerty, 2008, pp. 11–12). In response, the Senate committee recommended that all military investigative organizations be restructured with proper rules and authority comparable to external agencies such as the Federal Bureau of Investigation (FBI) (Kunze, n.d.).

a. Activation

The Air Force was the first to respond to the Senate committee’s recommendation, and then–Secretary of the Air Force Stuart Symington coordinated with J. Edgar Hoover, FBI director, to assist in the transition (Hagerty 2008, p. 13). In 1948, under Hoover’s direction and Symington’s authority, FBI Special Agent Joseph Carroll was commissioned as a brigadier general (Brig Gen) in the Air Force. On August 1, 1948, AFOSI was formerly activated as the new investigative agency of the Air Force (Hagerty 2008, p. 27). AFOSI was also given the necessary authority to operate as an independent chain of command with Brig Gen Carroll as the first commander under the Office of the Inspector General (Hagerty, 2008, pp. 14, 19). In the coming years, AFOSI units were established at several Air Force bases throughout the world with the mission of investigating criminal, fraud, and counterintelligence matters in order to protect the Air Force’s personnel, equipment, supplies, and funds (Kunze, n.d.).

b. Mission

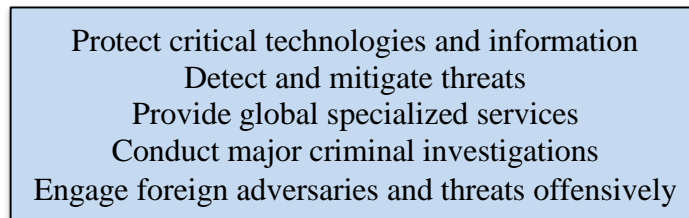
Today, AFOSI serves as the sole federal law enforcement and investigative agency in the Air Force, with more than 2,300 federally credentialed special agents positioned around the world (AFOSI Public Affairs Office, 2011). AFOSI’s mission is “to identify, exploit and neutralize criminal, terrorist and intelligence threats to the Air Force, Department of Defense and U.S. Government” (AFOSI Public Affairs Office, 2011). In this capacity, AFOSI conducts full spectrum operations in criminal, fraud, and



counterintelligence matters. As the operational environment evolved, AFOSI expanded its mission to include forensics, polygraph, technical services, cyber, protective services, and counterterrorism (AFOSI Public Affairs Office, 2011).

In order to achieve its mission, AFOSI instituted core capabilities (see Figure 2) that are essential and expected of all agents. These capabilities support the overarching AFOSI strategy to “build an environment of excellence at all levels, all the time; elevate professional stature of AFOSI in the Department of Defense, United States and international arenas; and be a requirements-driven organization and build capabilities in-depth” (AFOSI Public Affairs Office, 2011). Although AFOSI special agents have jurisdiction and responsibility to investigate all major crimes within the Air Force, this research focuses primarily on the procurement fraud mission, the AFOSI Procurement Fraud Unit (PFU), and the agents assigned to the PFU.

Figure 2. AFOSI Core Capabilities



Adapted from Air Force Office of Special Investigations (AFOSI) Public Affairs Office. (2011). *Inside AFOSI* [Fact sheet]. Retrieved from <http://www.osi.af.mil/library/factsheets/factsheet.asp?id=4848>

2. AFOSI Office of Procurement Fraud

Throughout the years, AFOSI maintained its concentration on its primary mission areas of investigating procurement fraud, counterintelligence matters, and general crimes. During the 1970s, AFOSI changed its investigative focus to place more emphasis on investigating counterintelligence and general crimes (Hagerty, 2008, p. 303). As a result of these changes, procurement fraud billets were eventually reduced from 127 agents to 71. Following a series of major high-level fraud cases, Congress passed the Inspector General (IG) Act of 1978. The Inspector General (IG) Act of 1978 proved that the



president and Congress were committed to the reduction of fraud, waste, and abuse in the federal government. This attention had trickle-down effects and revitalized the AFOSI Procurement Fraud program (Hagerty, 2008, p. 303).

After the terrorist attacks on September 11, 2001, AFOSI focused on counterterrorism and counterintelligence operations, which required agents to train and deploy in support of Operation Iraqi Freedom and Operation Enduring Freedom. As a result, investigating procurement fraud became less of a priority (C. King, personal communication, July 1, 2015). Today, AFOSI is once again placing more attention on procurement fraud. This was evident with the October 2013 activation of the AFOSI Office of Procurement Fraud (OPF), which was given the mission of investigating allegations of procurement fraud originating from strategic or centralized acquisitions (Essex & Gaffney, 2014; Kidwell, 2013).

The new AFOSI OPF received 83 manning billets that would be specifically assigned to investigating procurement fraud (C. King, personal communication, July 1, 2015). With approximately 200 Air Force bases, and the high volume of contracts awarded by Air Force contracting officers, the main challenge to investigating fraud is having the necessary manpower to proactively seek out fraud early on while also investigating current and reported allegations (C. King, personal communication, July 1, 2015). Figure 3 provides a graphical depiction of Air Force bases located within the continental United States.



Figure 3. Map of United States Air Force Base Locations



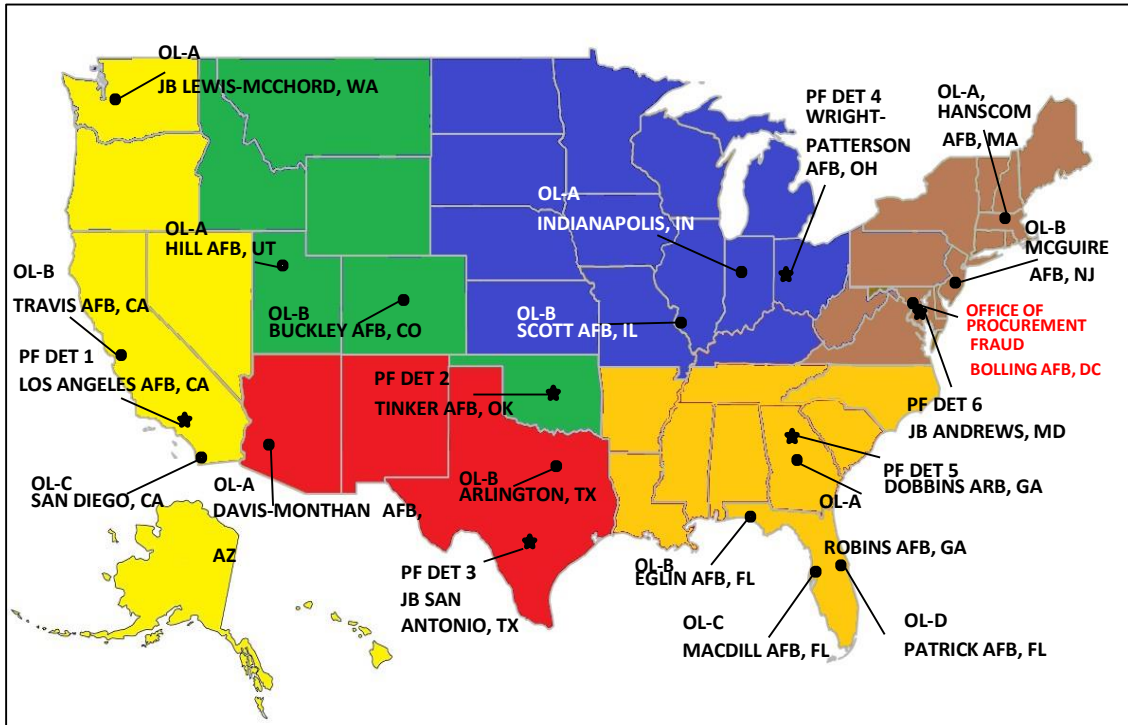
This map shows the locations of Air Force bases throughout the United States. The colors on this map do not correspond to the colors on the map in Figure 4 nor do they represent any specific areas of responsibility. Adapted from Defense Media Activity. (2010). *Airman*, the book 2010, volume LIV(3), p. 53. Retrieved from http://www.af.mil/Portals/1/documents/airman_archive/2010%20The%20Book.pdf

Although the size of the new OPF was considerably smaller than the 1970s' high of 127 agents, the new office took a lean and strategic approach with its organizational structure and allocation of agents (C. King, personal communication, July 1, 2015). Accordingly, agents were assigned to one of 22 operating locations throughout the United States under six Procurement Fraud Units (PFUs). To ensure adequate coverage, these PFUs were intentionally aligned with major contracting hubs for the Air Force (C. King, personal communication, July 1, 2015). Figure 4 shows the locations of AFOSI PFU Operating Locations (OLs).

Organizationally, the OPF became somewhat of a separate organization within AFOSI, led by a director who was a subject matter expert in investigating fraud (C. King, personal communication, July 1, 2015). This allowed AFOSI as an organization to

continue to exploit other mission areas while at the same time focusing on fraud. Additionally, the strategic approach to implementing OPF prevented agents the requirement to investigate all allegations of other criminal offenses. Instead, agents focused solely on procurement fraud (C. King, personal communication, July 1, 2015).

Figure 4. AFOSI Office of Procurement Fraud Areas of Responsibility Chart



The colors on this map represent Air Force Office of Special Investigations Office of Procurement Fraud's areas of responsibility and do not correspond to the colors on the map in Figure 3. Adapted from C. King, personal communication, July 1, 2015. This AFOSI Procurement Fraud Area of Responsibility Chart was presented during a discussion at HQ AFOSI/XRG, Quantico, VA

All AFOSI special agents receive a basic level of training on the contract management process, major procurement fraud schemes, and investigation of allegations of fraud. This ensures any agent can be assigned to OPF (C. King, personal communication, July 1, 2015). However, in order to ensure PFUs were manned with agents familiar with the complexity of investigating procurement fraud, OPF leadership ensured advanced fraud training opportunities were available (C. King, personal communication, July 1, 2015). There is no requirement for any specific training once an

agent is assigned to a PFU, but advanced training is offered and highly encouraged by AFOSI leadership (C. King, personal communication, July 1, 2015)

3. AFOSI Training

Training for all AFOSI agents begins at the Federal Law Enforcement Training Center (FLETC) in Glynco, GA. When initially hired to AFOSI, agents attend a federal Criminal Investigators Training Program (CITP) followed by an AFOSI-specific training, Basic Special Investigations Course (BSIC), to familiarize agents with investigations under the Uniform Code of Military Justice (UCMJ) as well as other pertinent federal laws (AFOSI Public Affairs Office, 2011; C. Collins, personal communication, June 29, 2015). Upon graduating from both courses, agents enter a one-year probationary training program known as the Basic Extension Program (BEP), which is an on-the-job-type training program where agents get real-world investigative experience in different areas (C. Collins, personal communication, June 29, 2015). This training is required regardless of the investigative position of an agent, but there is also advanced training available for those agents that specialize in a specific focus area, such as procurement fraud (C. Collins, personal communication, June 29, 2015).

a. Criminal Investigations Training Program

CITP is an eleven-and-a-half-week federal law enforcement training program where students learn the basics of federal law enforcement (AFOSI Public Affairs Office, 2011). Since this training is a basic course, newly hired agents from many different federal law enforcement agencies attend for an introduction to federal law enforcement. This course provides students the foundation to run investigations, conduct interviews and surveillance, collect evidence, and testify in court (FLETC, 2015a). Additionally, CITP introduces students to federal statutes, which will serve as the basis for future investigations (FLETC Office of Chief Counsel, 2015). The federal statutes contain “elements” of crimes. These elements are the minimum level of proof that is required to convict an alleged criminal in court (FLETC Office of Chief Counsel, 2015). Accordingly, it is important for an investigator to understand these elements in order to conduct and develop a complete



investigation. These common skills learned in FLETC are used to investigate many different types of illegal activity, especially procurement fraud.

b. Basic Special Investigators Course

Upon graduating from CITP, agents immediately enter BSIC, where they receive AFOSI-specific lectures and scenario-based instruction at the U.S. Air Force Special Investigations Academy (USAFSIA) in Glynco, GA (AFOSI Public Affairs Office, 2007). BSIC serves as an introduction to AFOSI as an organization and introduces new agents to investigating criminal offenses under the U.S. Code and the UCMJ. BSIC also introduces some challenges specific to investigating offenses within the Air Force (C. Collins, personal communication, June 29, 2015). Training topics include interrogations, report writing, crimes against property, crimes against persons, counterintelligence, force protection, and economic crimes (AFOSI Public Affairs Office, 2007). During the economic crimes block of instruction, new agents are trained on the complexities of the contract management process and procurement fraud (C. Collins, personal communication, June 29, 2015).

AFOSI has defined fraud as “a willful misrepresentation for the purpose of obtaining something of value” (HQ AFOSI/XRG, 2015, p. 22), and this is where instruction on investigating procurement fraud begins (USAFSIA, 2015b). From here, USAFSIA (2015b) instructs students on the execution of the AFOSI fraud mission through three steps:

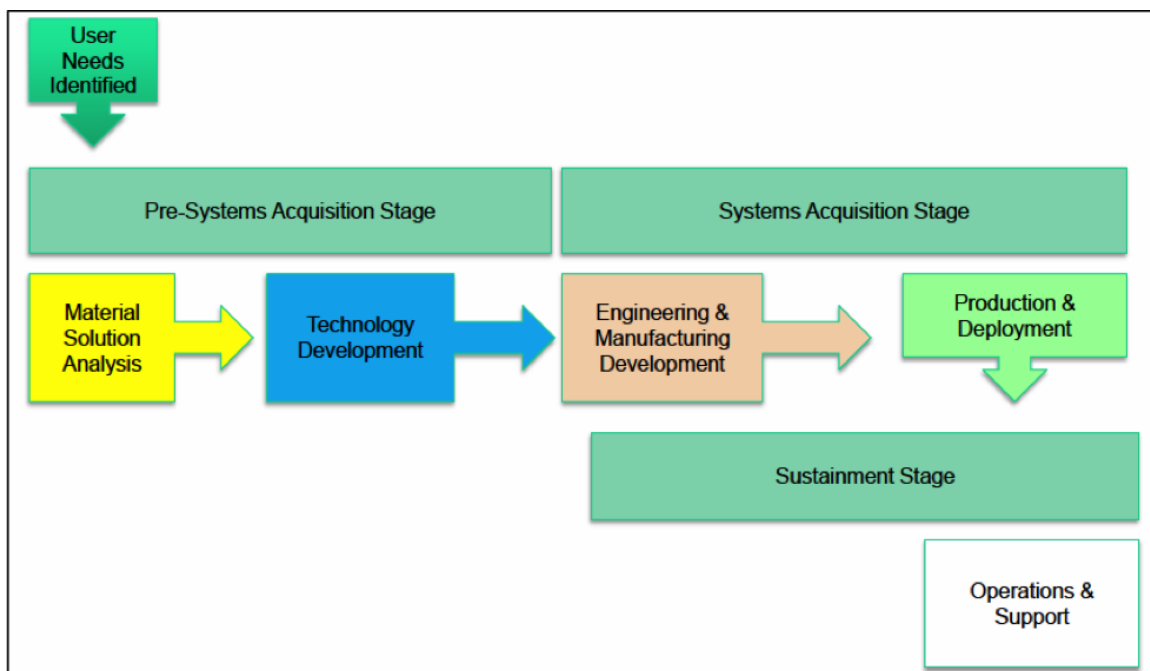
1. Assess the environment to identify targets and determine priorities of these targets through the value of a resource, the impact of its mission, or the potential for loss
2. Proactively detect and investigate fraud within the previously identified targets
3. Seek remedies for instances of fraud through prosecutorial or administrative authorities (USAFSIA, 2015b)

This basic introduction sets the stage for the remainder of the economic crimes lectures for new AFOSI special agents.



Although not all AFOSI agents will be assigned to procurement fraud units, there is a potential for any agent to be called upon to investigate or assist with a fraud investigation at either the base, strategic, or central/systems level of procurement (C. Collins, personal communication, June 29, 2015). Accordingly, USAFSIA ensures all agents have a general understanding of the contract management process as documented in the *Defense Acquisition Guidebook* and the FAR (USAFSIA, 2014c). Instructors attempt to do this by introducing agents to the acquisition life cycle, depicted in Figure 5.

Figure 5. Government Acquisition Life-Cycle



U.S. Air Force Special Investigations Academy (USAFSIA). (2014c). Procurement process overview [BSIC economic crimes lecture], p. 5. Glynco, GA: AFOSI

Throughout the course of instruction, students learn what drives requirements for end users and how the type of requirement can influence where it enters in the acquisition life cycle (USAFSIA, 2014c). As instruction moves on, students learn what constitutes a legal contract as well as types of contracts and when they are used. In addition, students learn how to navigate through a contract file in order to conduct a review (C. Collins, personal communication, June 29, 2015).

Once agents understand the basics of the contract management process, they focus on procurement fraud schemes and the applicable laws that are commonly violated through the schemes. This is a significant point of the instruction because it is important for agents to understand that the allegation or even presence of a fraud scheme does not actually constitute illegal activity until a violation of the law has occurred (USAFSIA, 2014a). For example, the intent of a contractor to willingly substitute substandard products on a government contract is not by itself a violation of the law. However, once the contractor certifies the products meet all specifications and submits the claim for payment, that person has committed a violation of 18 U.S.C. § 1001, False Statements, and 18 U.S.C. § 287, False Claims (USAFSIA, 2014a).

Despite receiving instruction on the various aspects of the contract management process and procurement fraud, agents are not trained to the same level of detail as Air Force contracting officers (USAFSIA, 2014c). Accordingly, agents are taught to seek assistance from outside resources and subject matter experts when required. Besides obtaining support from Air Force contracting officers when necessary, agents are also encouraged to seek assistance from their servicing Assistant U.S. Attorney's Office (AUSA) or auditors from the Air Force Audit Agency or Defense Contract Audit Agency (USAFSIA, 2013). When agents collaborate with these agencies, they are more likely to successfully investigate and prosecute allegations of fraud.

After completion of CITP and BSIC, students are credentialed as federal agents for AFOSI (AFOSI Public Affairs Office, 2007). However, although agents, as federal law enforcement officers, operate with full authority to investigate allegations of crime affecting the Air Force, they do so on a probationary status in which they receive additional guidance, oversight, and on-the-job training (AFOSI Public Affairs Office, 2011).

c. Basic Extension Program

Upon graduation, agents are assigned to AFOSI detachments around the world. As a result, agents investigate different types of crimes and gain different experience (C. Collins, personal communication, June 29, 2015). While general experience was



important to the development of an agent, AFOSI recognized the need for a standardized program that required all new agents to meet specific experience objectives in proactive, real-world scenarios. Accordingly, USAFSIA developed and launched AFOSI BEP (C. Collins, personal communication, June 29, 2015).

BEP was developed as a web-based, on-the-job training environment where, regardless of their location, agents receive the same level of training and familiarization with each of AFOSI's mission sets. BEP covers counterintelligence, general crimes, and economic crimes and requires each agent in the program to complete specific online modules of instruction followed by real-world investigative steps (C. Collins, personal communication, June 29, 2015). BEP was also structured with open enrollment, which allows agents to complete different blocks of training in the order of their choosing. This provides flexibility and allows agents filling a specific role to begin with a BEP block in that same area (e.g., agents filling fraud billets can begin with the economic crimes block) (C. Collins, personal communication, June 29, 2015).

Within the economic crimes block, agents are responsible for the completion of four online modules: "Contract File Review and FAR," "Fundamentals of Economic Crimes," "Investigative Tools and Supporting Agencies," and "Prosecutorial Jurisdiction" (C. Collins, personal communication, June 29, 2015). Throughout these modules, agents look at the uniform contract format, the FAR, and major fraud schemes (USAFSIA, 2015a, 2015c). These areas serve as a general introduction and are mostly used to familiarize agents with the different aspects and terms of contracting (C. Collins, personal communication, June 29, 2015). In addition to the online training modules, agents are also required to complete several investigative steps followed by written assignments to demonstrate proficiency in the subject areas. Written assignments include a narrative of the identification of a fraud target, results of a contract review, a fraud investigation plan, a DODIG subpoena, and proper identification of applicable federal fraud statutes to an investigation.

The BEP forces agents to gain experience through real-world proactive steps, which require agents to identify and meet with their local contracting office as well as quality assurance personnel to identify any perceived vulnerabilities (C. Collins, personal



communication, June 29, 2015). This information will be used to develop a fraud plan with specific objectives and targets to focus their investigative efforts (HQ AFOSI/XRG, 2009). Once a fraud plan is established, agents conduct a proactive investigation starting with a comprehensive review of a contract file as well as a review of the respective government contractor (C. Collins, personal communication, June 29, 2015).

Throughout the entire BEP curriculum, agents communicate with USAFSIA economic crimes instructors who provide feedback on their performance. The instructors also assess agents' performance and give guidance and recommendations on what investigative steps may be helpful to the investigation (C. Collins, personal communication, June 29, 2015). Upon conclusion of the program, agents are fully credentialed federal agents and have had some relevant exposure to investigating procurement fraud. Accordingly, they will also have identified and developed relationships with pertinent local Air Force contracting squadron personnel, quality assurance personnel, auditors, other investigative agencies, and their servicing AUSA. This is an added benefit to the requirements of BEP in that it fosters a relationship between AFOSI and other agencies and sets the stage for future partnerships in targeting fraud (C. Collins, personal communication, June 29, 2015).

d. Advanced Training

Agents meet the minimum training requirements to investigate procurement fraud upon completion of BSIC. However, a training needs assessment identified that agents specializing in procurement fraud needed advanced training that was specific to the mission set. Due to the complexity often associated with fraud schemes, agents need to have the ability to conduct an economic analysis to identify and follow the money trail from ill-gotten gains. AFOSI found a solution at FLETC, as it had several advanced fraud courses available (C. King, personal communication, July 1, 2015). To develop the skills of the investigative force, AFOSI collaborated with FLETC to send agents through advanced procurement fraud-specific courses such as the Procurement Fraud Investigation Training (PFIT), Product Substitution Investigations Training (PSIT),



Economic Crimes Investigation and Analysis (ECIA), and Money Laundering and Asset Forfeiture Training (MLAFT) (C. King, personal communication, July 1, 2015).

Available courses managed and taught by instructors at FLETC are designed to provide agents with comprehensive training on major procurement fraud schemes that are common within the DOD (C. Collins, personal communication, June 29, 2015). Each of these courses provides specific details on a procurement fraud area of focus, but a common theme throughout all the courses is the in-depth knowledge of the contract management process. This allows agents to better identify what schemes are commonly used to commit fraud and where in the process the violations frequently occurred (FLETC Office of Chief Counsel, 2015). These programs also place considerable emphasis on the contract management process and the importance of investigators to understand it in order to effectively conduct procurement fraud investigations (FLETC, 2015b). Although these additional training courses are not mandatory, they are encouraged for agents who specialize in procurement fraud or have an interest in this area (C. King, personal communication, July 1, 2015).

Aside from the advanced training at FLETC, AFOSI also sought additional training through the Inspector General Academy and has considered offering the Association of Certified Fraud Examiners (ACFE) certification to a select few agents within OPF (C. King, personal communication, July 1, 2015). The ACFE credential is awarded to individuals who have considerable training and experience in fraud detection and deterrence as well as pass a professional certification exam (ACFE, 2015). Currently, AFOSI has approximately 17 agents holding the CFE certification, although not all those agents are currently assigned to a billet within OPF (C. King, personal communication, July 1, 2015).

While advanced training would enable an AFOSI agent to become more familiar with procurement fraud schemes, the contract management process, and conducting investigations, the advanced training is not required. Still, an agent is responsible to investigate allegations of fraudulent activity regardless of the agent's level of training. The investigative process for procurement fraud is similar to that of other crimes;



however, fraud cases can be the most challenging to investigate, as ultimately, agents are attempting to find a “documented lie” (HQ AFOSI/XRG, 2009, p. 25).

4. AFOSI Procurement Fraud Investigative Process

The 83 agents in the AFOSI Office of Procurement Fraud (OPF) are assigned throughout the 22 operating locations of OPF. These agents are responsible for investigating procurement fraud within major central/systems acquisitions (C. King, personal communication, July 1, 2015). AFOSI’s authority to investigate procurement fraud stems from the Inspector General Act of 1978 and includes all fraud investigations, including theft/embezzlement, public corruption, antitrust, false statements/claims, and many other matters (HQ AFOSI/XRG, 2009). AFOSI also coordinated with the Air Force Air Staff in order to identify the following investigative priorities on which to focus its efforts:

- product substitution
- public corruption
- bid rigging, anti-trust, false statements/claims
- price mischarging
- environmental crimes
- defective pricing
- other (HQ AFOSI/XRG, 2015)

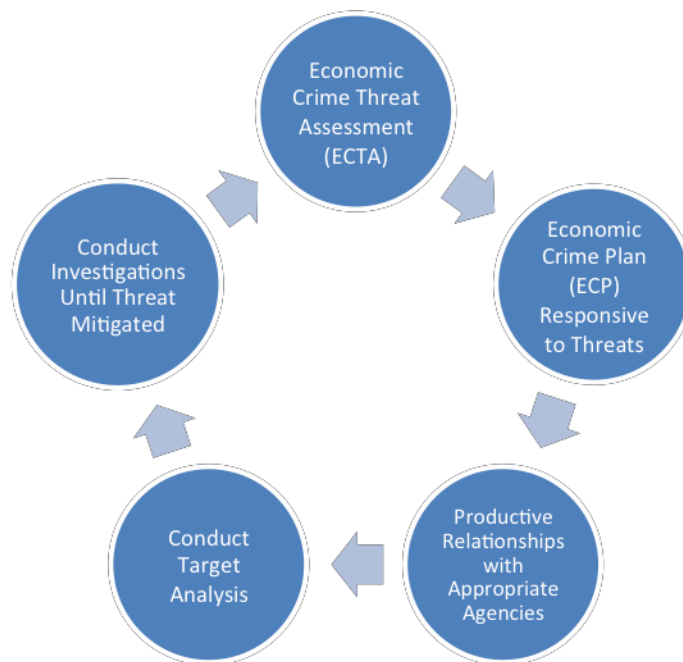
Despite having Air Staff priorities, AFOSI has limited resources, and investigations can be extremely lengthy, making it impossible to conduct a substantial investigation on every allegation (C. King, personal communication, July 1, 2015). AFOSI tests each allegation and determines if it meets the threshold for further investigation and refers cases that do not meet the threshold to proper channels (HQ AFOSI/XRG, 2009).

AFOSI agents manage the economic crime mission through a constant cycle (see Figure 6). This cycle assists agents to identify vulnerabilities by conducting an “Economic Crime Threat Assessment” and then develop a cooperative strategy with the



vulnerable organization (HQ AFOSI/XRG, 2015). Agents investigate allegations that meet minimum thresholds for a substantive investigation, and once the investigation reaches a logical conclusion, AFOSI refers the completed report to the servicing prosecutor. Throughout the investigative process, agents ensure every possible investigative step is completed. This often requires work with other external agencies, such as audit agencies and the AUSA (C. Collins, personal communication, June 29, 2015).

Figure 6. Economic Crime Threat Assessment and Identification Cycle



Source: Headquarters Air Force Office of Special Investigations (HQ AFOSI/XRG). (2015). Procurement fraud investigations (Manual 71–122), p. 13. Quantico, VA: AFOSI

Although agents are constantly seeking fraudulent activity, not every investigative step leads to criminal prosecution. As a result, it can be difficult to measure success with any objective metrics (C. King, personal communication, July 1, 2015). Accordingly, AFOSI measures success by evaluating investigative sufficiency and timeliness on individual investigations. The overall procurement fraud program is measured by considering the number of recoveries, indictments, and convictions throughout all investigations (HQ AFOSI/XRG, 2009; C. King, personal communication, July 1, 2015).

Since its activation in October 2013 until July 2015, AFOSI OPF has been responsible for the investigation of 191 allegations of fraudulent activity, during which agents identified 362 criminal subjects. Upon the conclusion of these investigations, AFOSI's efforts led to the recovery of more than \$790 million to the government (C. King, personal communication, July 1, 2015).

D. SUMMARY

This chapter provided a background on the procurement environment of the DOD and Air Force and on the history and evolution of AFOSI as the investigative agency for the Air Force. Additionally, this chapter presented the training requirements required for all AFOSI agents as well as some advanced procurement fraud investigation training available for agents. This chapter identified the investigative priorities for AFOSI and a simplified breakdown of the AFOSI investigation process for economic crimes.

To ensure auditability in the Air Force, agents should be competent not only in procurement fraud but also with the contract management process. The purpose of this research is to assess AFOSI's procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in these areas. The next chapter, Chapter IV, presents the methodology used in this research.



IV. METHODOLOGY

A. INTRODUCTION

This chapter covers the methodology used in this research. Specifically, this chapter discusses the development of the assessment tool, the deployment of the assessment tool, and the method of analysis. The assessment tool was composed of questions related to the contract management process and major procurement fraud schemes discussed in Chapter II to assess Air Force Office of Special Investigations (AFOSI) procurement fraud agents' knowledge in those areas. Additionally, the assessment tool assessed the agents' perceptions of their knowledge of the contract management process.

B. DEVELOPMENT OF THE ASSESSMENT TOOL

The purpose of this research is to assess AFOSI's procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in these areas. This research continues a research stream on fraud vulnerability and knowledge assessment of competent people previously researched by Chang (2013) and Castillo and Flanigan (2014). This research study continues the research on auditability, specifically, the focus of having competent people. Having competent people not only includes contracting officers being knowledgeable of procurement fraud schemes, but also procurement fraud agents being knowledgeable of the contract management process. The assessment tool used in this research contained a mixture of knowledge-based questions for each phase of the contract management process and procurement fraud schemes to assess AFOSI agents' knowledge in these areas. This research also includes Likert Scale questions to assess the agents' own perceptions of their knowledge of the contract management process, procurement fraud schemes, and their ability to perform their jobs adequately with their knowledge levels in these areas. The anonymous, voluntary survey was deployed online using the Naval Postgraduate School (NPS) supported LimeSurvey web-based tool.



1. Sources Used to Develop Questions

The Federal Acquisition Regulation (FAR), National Contract Management Association (NCMA) certification study guides, past research (Chang, 2013), and the researchers' own experiences were all used to develop the assessment tool. Chang's assessment tool was developed using information from the U.S. Agency for International Development (USAID), Office of the Inspector General, and the Office of Investigation's *Fraud Indicators Handbook* (Chang, 2013). Questions used from Chang's survey in this assessment tool were related to procurement fraud. The Likert Scale questions were developed as a method of assessing AFOSI procurement fraud agents' perceptions of their knowledge of the phases of the contract management process and major procurement fraud schemes.

2. Development of Knowledge Questions

The knowledge questions were developed with the goal of accurately assessing each participant's knowledge of the contract management process and procurement fraud schemes. Since the goal of this research is to assess AFOSI procurement fraud agents' knowledge of contract management process, the knowledge questions in the assessment tool were divided among the phases of the contract management process. Some phases were weighted heavier with more questions than others because there were more topics to cover within those phases. Additionally, each section contained one question related to procurement fraud and one scenario-based question related to that particular phase of the contract management process. A concerted effort was made to ensure participants could not easily look up answers to the questions; however, some answers drew directly from regulations such as the FAR and could be searched. Prior to deployment of the survey, survey questions were analyzed by subject matter experts for readability, understandability, and clarity.

3. Development of Perception Questions

In addition to general knowledge questions and demographics questions, the survey asked participants seven questions regarding their perception of how much they knew about the phases of the contract management process and procurement fraud



schemes to perform their fraud investigative duties. These survey questions used a 5-point Likert Scale with possible answers ranging from “strongly agree” (5) to “strongly disagree” (1). Participants assessed their own knowledge level of the phases of the contract management process and procurement fraud schemes.

4. Development of Demographic Questions

The demographic questions were designed to collect information about survey participants’ backgrounds. Questions consisted of employment category (i.e., military officer, enlisted, or civilian), years of experience as a credentialed AFOSI agent, years of experience working in procurement fraud, and ACFE certified fraud examiner status. These questions enabled the identification of specific patterns among different groups of survey respondents.

C. DEPLOYMENT OF THE ASSESSMENT TOOL

Prior to the deployment of the survey, all appropriate Institutional Review Board (IRB) procedures were followed. Upon IRB approval, the survey was deployed using the NPS LimeSurvey web-based tool and disseminated to AFOSI agents assigned to the AFOSI Office of Procurement Fraud (OPF) via an e-mail containing the link to the website hosting the survey. The survey was available for six weeks. A follow-up e-mail was sent two weeks after the start of the survey to remind special agents to complete the survey if they had not done so already. The population size for this research consisted of the 83 agents within AFOSI’s OPF. Agents in the OPF consist of officers, enlisted, and civilian special agents with varying backgrounds and experience within AFOSI’s mission set (C. King, personal communication, July 1, 2015).

D. ANALYSIS OF SURVEY RESPONSES

The data collected from the assessment tool was analyzed in Microsoft Excel using descriptive statistics. Questions were analyzed by each demographic for any patterns or potential relationship among the demographics. Particular attention was given to the questions that were most missed among the survey respondents as well as the questions with the highest percentage of correct answers. Results were analyzed for each



phase of the contract management process and the participants' perceptions. The results were also compared to the participants' demographics, which included employment category, years of AFOSI experience, years of fraud investigative experience, and Association of Certified Fraud Examiners (ACFE) certification. Finally, the survey respondents' performance on the knowledge-based questions was compared to their perception of their knowledge to identify any patterns and to determine the level of understanding of the contract management process and procurement fraud schemes.

E. SUMMARY

This chapter discussed the development of the assessment tool, the deployment of the assessment tool, and the method of analysis. This assessment tool was based on the survey used in Chang's 2013 research, which assessed contracting personnel's knowledge of procurement fraud schemes related to the contract management process, internal control components, and procurement fraud schemes and the contracting personnel's perceptions in those areas. The purpose of this research is to assess AFOSI's procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in these areas. This research also evaluates agents' perception of their knowledge of each of these areas. The next chapter, Chapter V, presents the findings, analysis, implications of this research, and recommendations based on this analysis.



V. FINDINGS, ANALYSIS, AND IMPLICATIONS

A. INTRODUCTION

This chapter presents the results of the assessment in order to identify Air Force Office of Special Investigations (AFOSI) procurement fraud agents' (hereafter referred to as agents) knowledge level of the contract management process and major procurement fraud schemes. This chapter also presents the agents' perceptions of their knowledge in these areas. Results are grouped into three major areas: findings, analysis, and implications. Findings include information on the deployment of the assessment tool as well as an overview of the knowledge level of the research participants. The analysis provides a discussion of how employment category, experience in AFOSI, experience investigating procurement fraud, and certifications affected the agents' knowledge levels.

This chapter also compares agents' actual knowledge, as identified by the assessment tool's knowledge-based questions, to their perceived knowledge according to their responses to the perception questions. Implications consider the results from this research and compare it to the conclusions from previous research in order to fully establish the overall implications to the U.S. Air Force and the AFOSI organization. Finally, based on the results and implications, recommendations are provided to strengthen AFOSI procurement fraud agents' knowledge as a component of the auditability triangle.

B. FINDINGS

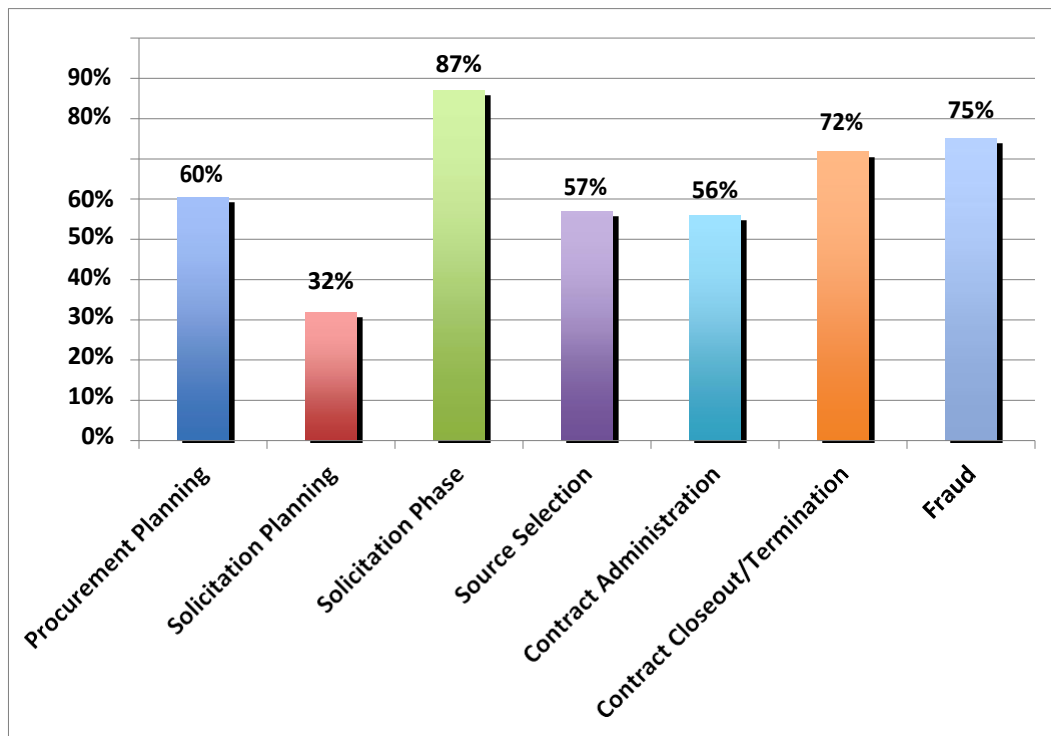
On July 29, 2015, the assessment tool was deployed on LimeSurvey and an e-mail was sent to the 83 agents assigned to procurement fraud units (PFUs) throughout AFOSI. The assessment tool was available for approximately six weeks and closed on September 8, 2015. Out of the total population, 59 participants opened the assessment tool but only 45 respondents completed the entire assessment. One respondent completed the knowledge portion of the assessment and terminated his or her participation prior to answering the demographic and perception questions. Findings on the knowledge portion of the assessment tool were based on all 46 respondents resulting in a response rate of



55.42 percent, while the demographic and perception questions were based on 45 respondents, resulting a response rate of 54.22 percent.

An initial review of the overall results of all of the knowledge-based questions resulted in an average overall score of 61 percent among all respondents. The highest overall individual's score was 89 percent with the lowest being 33 percent. When evaluated by question category, agents generally had the most knowledge about the solicitation phase (Phase 3) of the contract management process with an average score of 87 percent (Figure 7). Conversely, agents had the least amount of knowledge about the solicitation planning phase (Phase 2) of the contract management process with an average score of 32 percent (Figure 7). Agents' knowledge of procurement fraud was evaluated separately using specific questions on procurement fraud schemes occurring within the contract management process. Agents achieved an average score of 75 percent on procurement fraud scheme questions (Figure 7). Figure 7 shows a breakdown of average overall scores by knowledge-question category.

Figure 7. Average Overall Scores by Knowledge-Question Category



C. ANALYSIS

1. Analysis by Employment Category

Out of the 45 responses received for the demographic questions, 53 percent of the respondents were civilian agents, 11 percent were military officer agents, and 36 percent were enlisted agents. Figure 8 shows a visual depiction of the research respondents' average overall score by employment category. Among the employment categories, civilian agents had the highest overall scores on the assessment with an average of 67 percent (Figure 9). Officer agents scored an average of 56 percent, and enlisted agents scored an average of 54 percent (Figure 9).

Figure 8. Research Participants by Employment Category

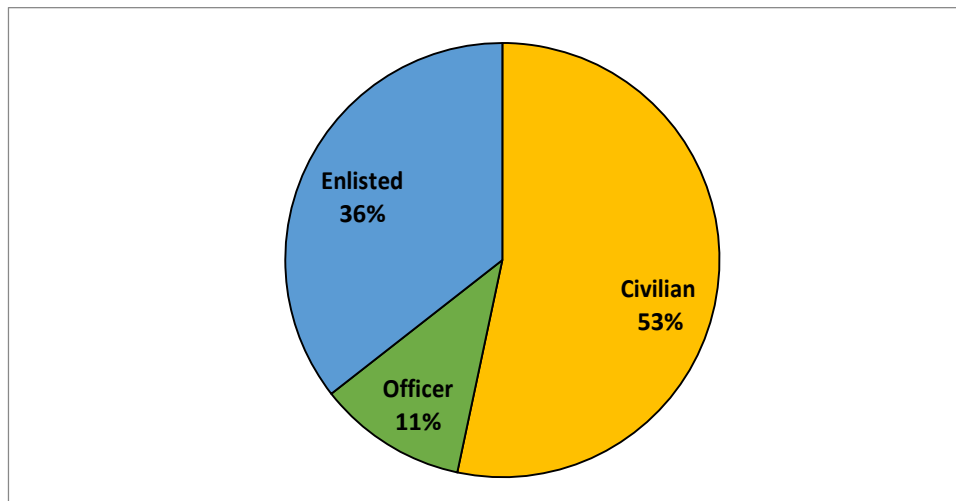
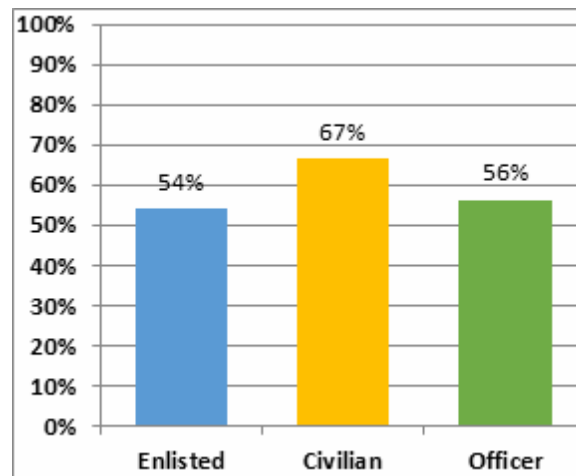


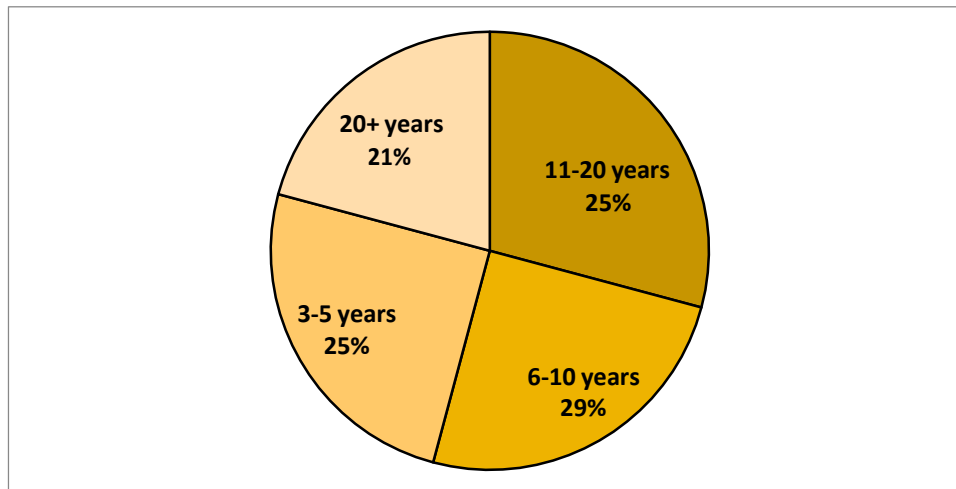
Figure 9. Average Overall Scores by Employment Category



a. Civilian Agents

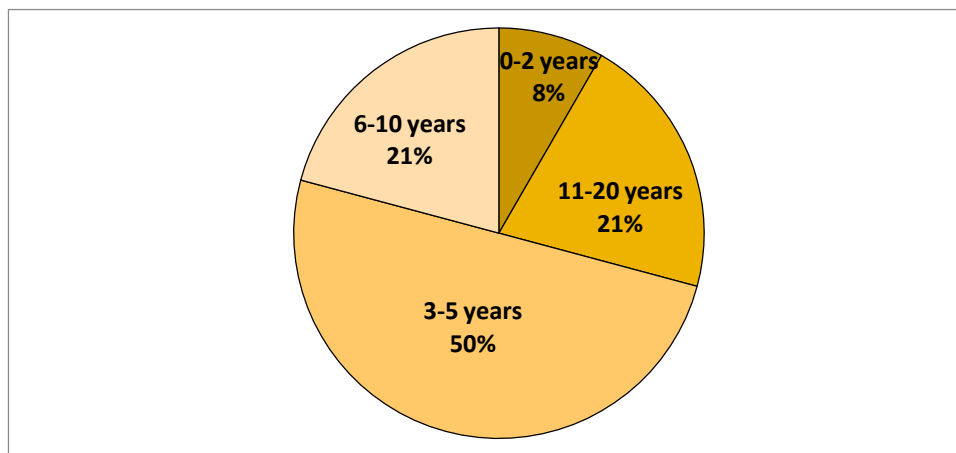
Out of the three employment categories, civilian agents had the highest overall scores on the assessment. Civilian agents also made up the most experienced category both with regard to time in AFOSI as well as time investigating procurement fraud. Additionally, 42 percent of civilian agents possessed the Certified Fraud Examiner (CFE) credential from the Association of Certified Fraud Examiners (ACFE). Regarding experience in AFOSI, the majority of the civilian respondents, 29 percent, indicated that they had 6-10 years of experience in AFOSI (Figure 10). Conversely, the lowest response rate for civilian respondents, 21 percent, indicated that they had more than 20 years of experience in AFOSI (Figure 10). No civilian respondents had less than 3 years of experience in AFOSI. Figure 10 provides a graphical representation of the AFOSI experience levels for civilian agents.

Figure 10. Civilian Agents' Experience in AFOSI



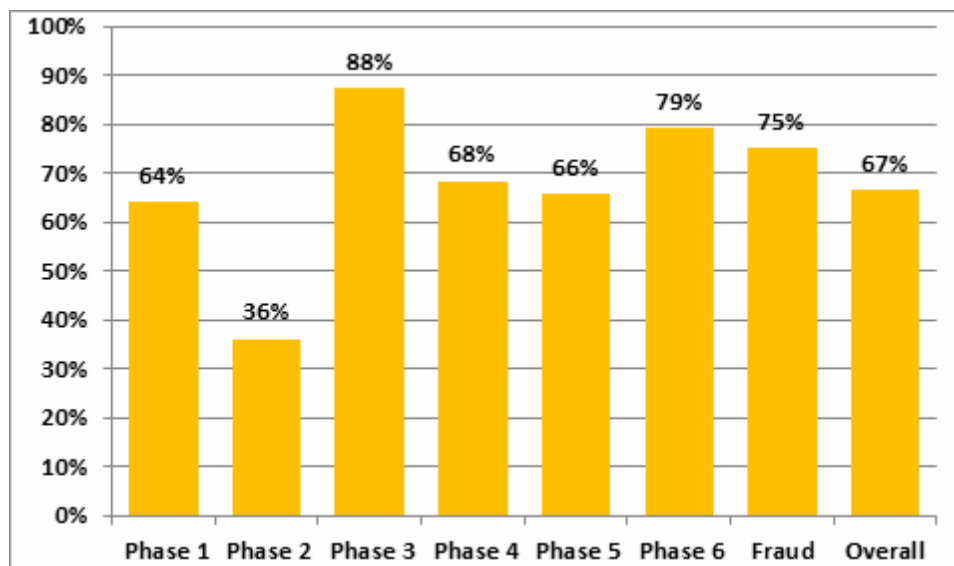
Additionally, when asked about experience investigating procurement fraud, the majority of the civilian respondents, 50 percent, indicated that they had 3-5 years of experience investigating procurement fraud (Figure 11). Conversely, the lowest response rate for civilian respondents, 8 percent, indicated that they had 0-2 years of experience investigating procurement fraud (Figure 11). No civilian respondents had more than 20 years of experience investigating procurement fraud. Figure 11 provides a graphical representation of civilian agents' experience investigating procurement fraud.

Figure 11. Civilian Agents Experience Investigating Procurement Fraud



Civilian agents scored an average of 67 percent on the assessment overall (Figure 12). Scores for knowledge-based questions were broken down by phase of the contract management process and a separate score for procurement fraud questions. Based on the results of the assessment, civilian agents were most knowledgeable about the solicitation phase (Phase 3) of the contract management process, with an average score of 88 percent on this phase (Figure 12). The lowest scores were in the solicitation planning phase (Phase 2), with an average score of 36 percent (Figure 12). Among the questions pertaining to procurement fraud, civilian agents had an average score of 75 percent. Figure 12 shows the average percentage of correct answers for the phases of the contract management process and for the procurement fraud questions.

Figure 12. Civilian Agents: Average Scores for Knowledge-Based Questions

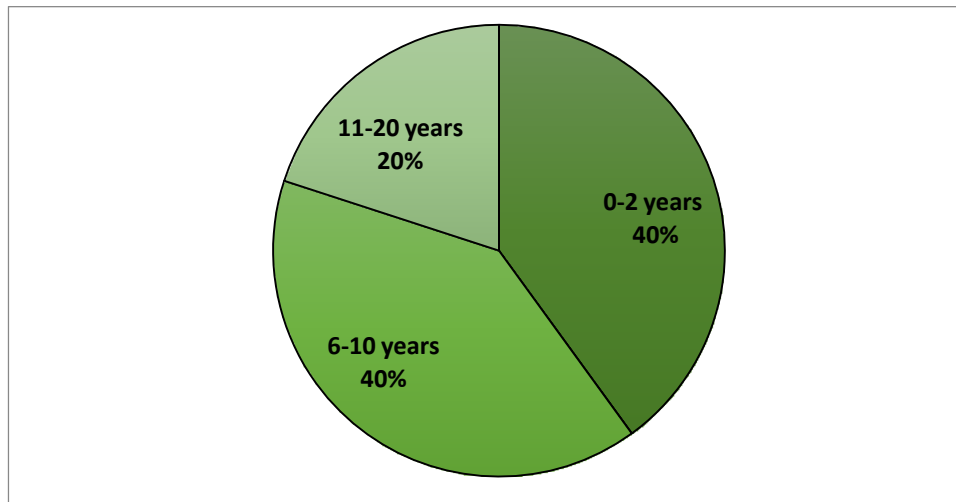


b. Officer Agents

Officer agents made up the smallest category in the sample and scored an average overall score of 56 percent on the knowledge-based questions (Figure 9). Additionally, 20 percent of the officer agents possessed the Certified Fraud Examiner (CFE) credential from the ACFE. Regarding experience in AFOSI, 40 percent of the officer respondents indicated that they had 6-10 years of experience in AFOSI, and another 40 percent of the

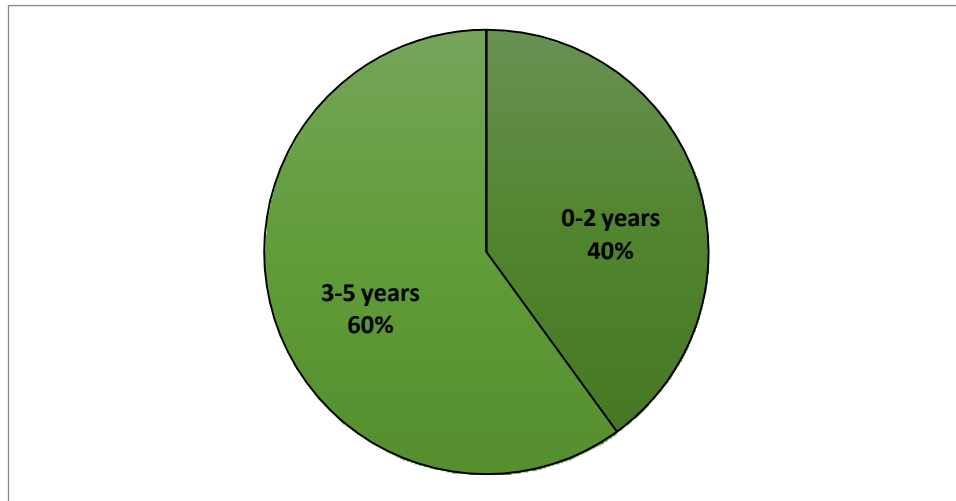
officer respondents indicated that they had 0-2 years of experience in AFOSI (Figure 13). Conversely, the lowest response rate for officer respondents, 20 percent, indicated that they had 11-20 years of experience in AFOSI (Figure 13). No officer respondents had 3-5 years of experience in AFOSI or more than 20 years of experience in AFOSI. Figure 13 provides a graphical representation of the AFOSI experience levels for officer agents.

Figure 13. Military Officer Agents Experience in AFOSI



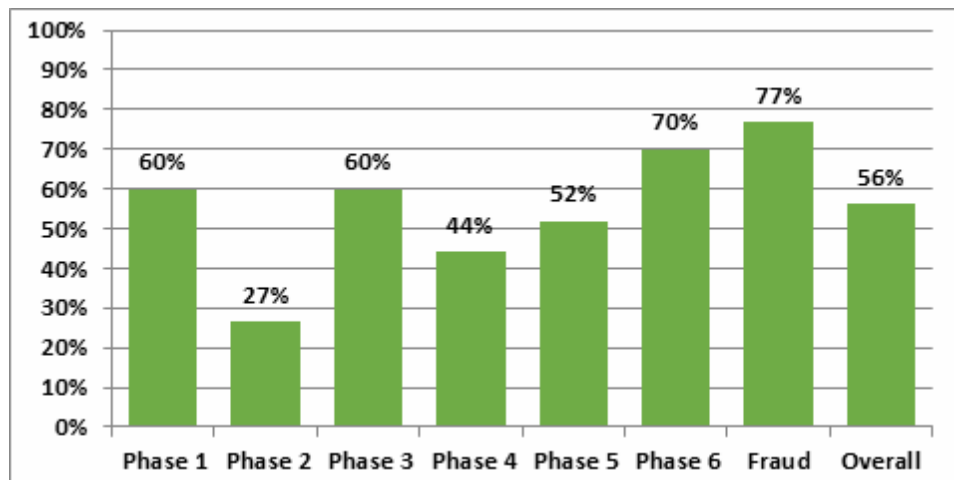
Additionally, when asked about experience investigating procurement fraud, the majority of the officer respondents, 60 percent, indicated that they had 3-5 years of experience investigating procurement fraud (Figure 14). Conversely, the lowest response rate for officer respondents, 40 percent, indicated that they had 0-2 years of experience investigating procurement fraud (Figure 14). No officer respondents had more than 5 years of experience investigating procurement fraud. Figure 14 provides a graphical representation of officer agents' experience investigating procurement fraud.

Figure 14. Military Officer Agents Experience Investigating Procurement Fraud



Military officer agents scored an average of 56 percent on the assessment overall (Figure 15). Scores for knowledge-based questions were broken down by phase of the contract management process and a separate score for procurement fraud questions. Based on the results of the assessment, officer agents were most knowledgeable about the contract closeout/termination phase (Phase 6) of the contract management process, with an average score of 70 percent on this phase (Figure 15). However, similar to the civilian agents, officer agents also scored lowest in the solicitation planning phase (Phase 2), with an average score of 27 percent (Figure 15). Among the questions pertaining to procurement fraud, officer agents had an average score of 77 percent. Figure 15 shows the average percentage of correct answers for the phases of the contract management process and for the procurement fraud questions.

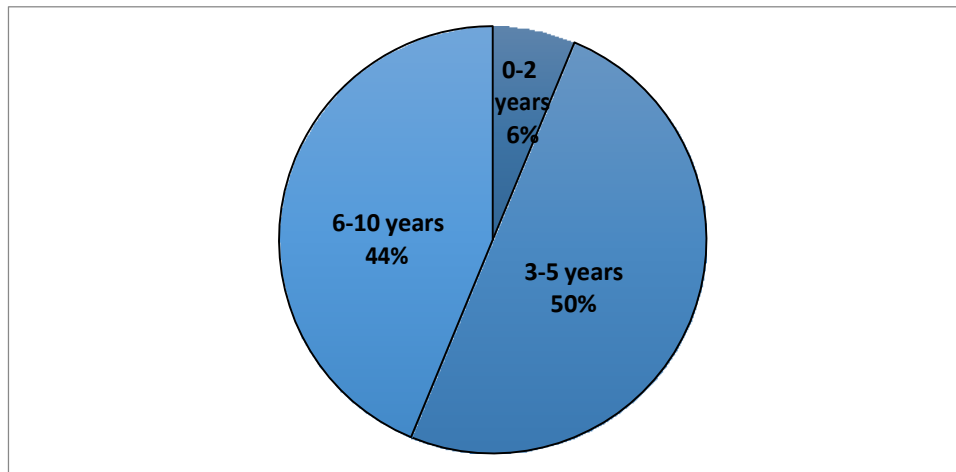
Figure 15. Officer Agents: Average Scores for Knowledge-Based Questions



c. Enlisted Agents

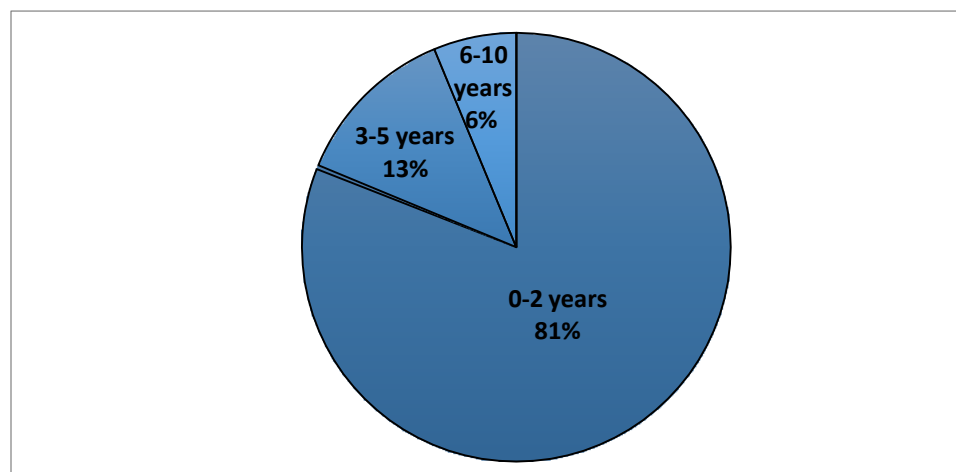
Enlisted agents scored an average overall score of 54 percent on the knowledge-based questions (Figure 9). Additionally, 13 percent of the enlisted agents possessed the CFE credential from the ACFE. Regarding experience in AFOSI, the majority of the enlisted respondents, 50 percent, indicated that they had 3-5 years of experience in AFOSI (Figure 16). Conversely, the lowest response rate for enlisted respondents, 6 percent, indicated that they had 0-2 years of experience in AFOSI (Figure 16). None of the enlisted respondents had more than 10 years of experience in AFOSI. Figure 16 provides a graphical representation of the AFOSI experience levels for enlisted agents.

Figure 16. Military Enlisted Agents Experience in AFOSI



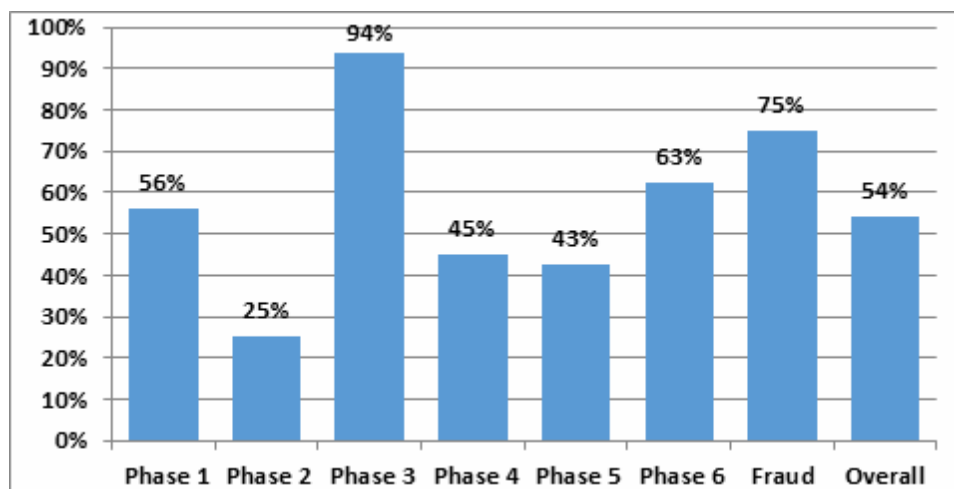
Additionally, when asked about experience investigating procurement fraud, the majority of the enlisted respondents, 81 percent, indicated that they had 0-2 years of experience investigating procurement fraud (Figure 17). Conversely, the lowest response rate for enlisted respondents, 6 percent, indicated that they had 6-10 years of experience investigating procurement fraud (Figure 17). No enlisted respondents had more than 10 years of experience investigating procurement fraud. Figure 17 provides a graphical representation of enlisted agents' experience investigating procurement fraud.

Figure 17. Military Enlisted Agents Experience Investigating Procurement Fraud



Military enlisted agents scored an average of 54 percent on the assessment overall (Figure 18). Enlisted agents also generally had the least amount of investigative experience both with AFOSI as well as with investigating procurement fraud. Scores for knowledge-based questions were broken down by phase of the contract management process and a separate score for procurement fraud questions. Based on the results of the assessment, enlisted agents were most knowledgeable about the solicitation phase (Phase 3) of the contract management process with an average score of 94 percent on this phase (Figure 18). Like both the civilian and officer agents, enlisted agents scored the lowest in the solicitation planning phase (Phase 2) of the contract management process with an average score of 25 percent (Figure 18). Among the questions pertaining to procurement fraud, enlisted agents had an average score of 75 percent. Figure 18 shows the average percentage of correct answers for the phases of the contract management process and for the procurement fraud questions.

Figure 18. Enlisted Agents: Average Scores for Knowledge-Based Questions



2. Analysis According to Experience with AFOSI

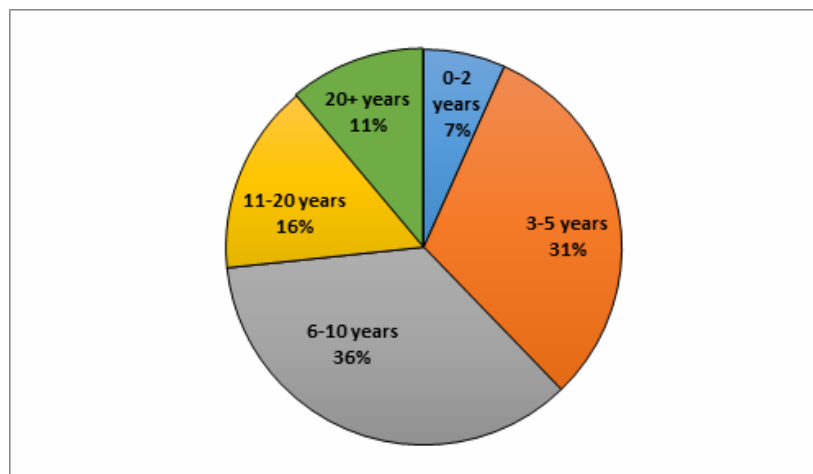
In order to determine experience with AFOSI, agents participating in this research were asked to provide the number of years of experience that they had as a credentialed

AFOSI special agent after graduating from the Federal Law Enforcement Training center (FLETC) or post-FLETC. Respondents had the option to choose from the following:

- a. 0–2 years
- b. 3–5 years
- c. 6–10 years
- d. 11–20 years
- e. 20+ years

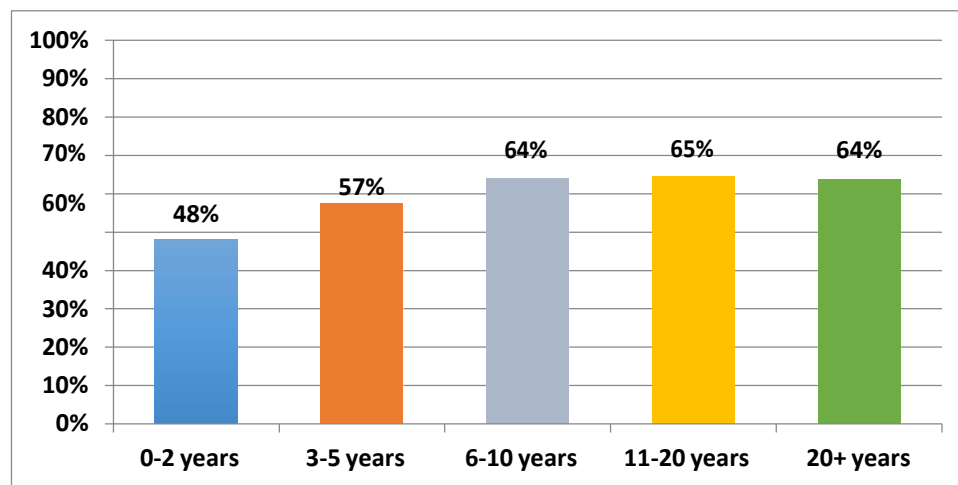
Selection “a” (0-2 years) was listed as an option because new AFOSI agents are typically serving in a probationary status for the first 18 months after graduating from the Basic Special Investigations Course (BSIC) at FLETC. This category (0-2 years) permitted the identification of agents that were relatively new to AFOSI and still on or had recently completed probationary time. It also permitted an understanding of the amount of knowledge agents had upon completion of the initial AFOSI training. Out of the 45 respondents, the majority of respondents, 36 percent, had 6-10 years of experience with AFOSI (Figure 19). The category with the least individuals was 0-2 years of experience, which included 7 percent of the respondents. Figure 19 provides a visual representation of the investigative experience of AFOSI special agents that participated in this research.

Figure 19. Agent Experience in AFOSI



Results of the assessment indicated that the more experience an agent had with AFOSI, the higher the average overall score on the knowledge-based questions. Agents with 0-2 years of experience with AFOSI achieved an average overall score of 48 percent (Figure 20). The average overall score increased to 57 percent for agents with 3-5 years of experience. The average overall score for agents with 6-10 years of experience increased to 64 percent, and the average overall score peaked for agents with 11-20 years of experience with an average score of 65 percent (Figure 20). While a trend indicated a relationship between scores and experience, the average overall score of agents with more than 20 years of experience decreased to 64 percent. Figure 20 shows the average scores of agents by experience category.

Figure 20. Average Overall Scores According to Experience in AFOSI



With the exception of agents with 0-2 years of experience with AFOSI, a pattern developed indicating that agents were generally most knowledgeable about the solicitation phase (Phase 3) of the contract management process. Collectively, the average overall score for all agents was 87 percent on the solicitation phase (Figure 7). However, if agents with 0-2 years of experience are excluded, the average overall score for knowledge-questions pertaining to the solicitation phase increases to 91 percent among the remaining categories of experience. Conversely, agents with 0-2 years of experience scored the lowest in the solicitation phase with an average score of 33 percent

The second phase in which agents scored the highest was the contract closeout/termination phase (Phase 6). Collectively, the average overall score for all agents was 72 percent on the contract closeout/termination phase. However, if agents with 0-2 years of experience are excluded, the average overall score for knowledge questions pertaining to the contract closeout/termination phase increases to 74 percent among the remaining categories of experience. Conversely, agents with 0-2 years of experience in AFOSI achieved their highest average overall score in the contract closeout/termination phase of the contract management process with an average overall score of 50 percent.

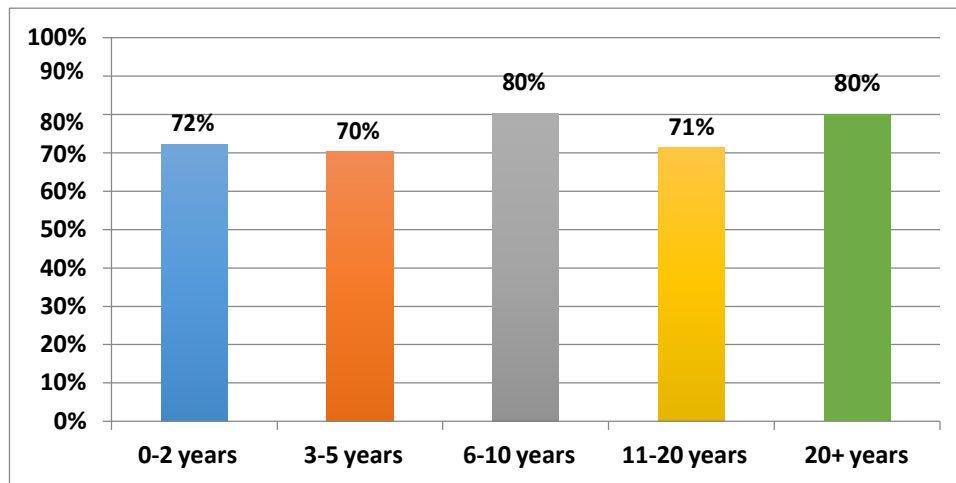
Finally, collectively, the average overall score was the lowest on knowledge questions pertaining to the solicitation planning phase (Phase 2) of the contract management process with an average overall score of 32 percent (Figure 7). However, if agents with 0-2 years of experience are excluded, the average overall score for knowledge questions pertaining to the solicitation planning phase decreases to 30 percent among the remaining categories of experience. It should be noted that agents with 0-2 years of experience in AFOSI achieved an average overall score of 44 percent on knowledge questions pertaining to the solicitation planning phase of the contract management process.

Despite an increasing trend of scores on knowledge-based questions about the contract management process, average overall scores pertaining to procurement fraud schemes did not seem to be affected by the number of years of experience an agent had within AFOSI. The average overall scores among all agents for procurement fraud questions was 75 percent; however, the average score between each of the experience categories only varied by 10-points. Agents with 0-2 years' time in AFOSI scored an average of 72 percent on procurement fraud questions; however, scores decreased to an average of 70 percent for agents with 3-5 years of experience (Figure 21). Agents with 6-10 years and agents with more than 20 years of experience both scored an average of 80 percent on knowledge questions pertaining to procurement fraud schemes. Figure 21 shows the average scores on procurement fraud questions according to AFOSI



experience. Appendix A shows the average scores for each category of experience according to question type.

Figure 21. Average Scores on Procurement Fraud by Experience in AFOSI



3. Analysis According to Experience Investigating Procurement Fraud

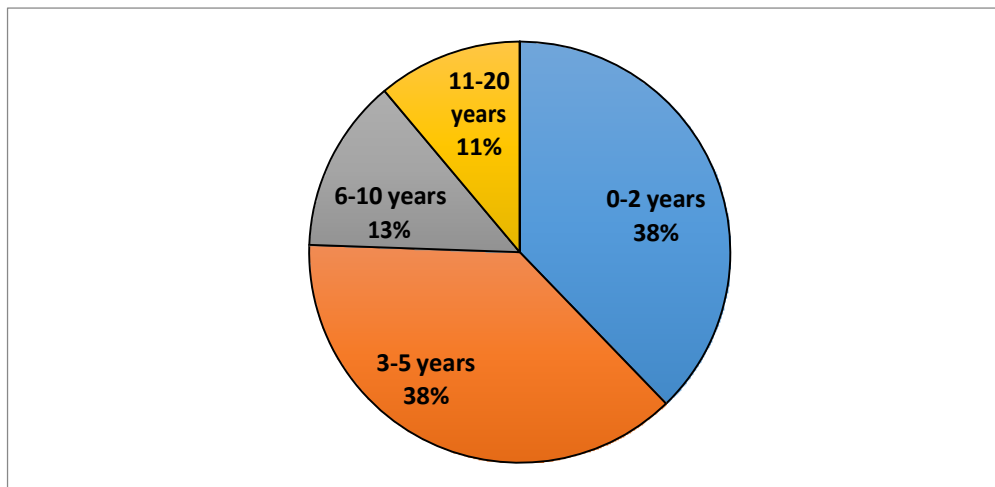
In order to determine experience investigating procurement fraud, AFOSI agents that participated in this research were asked to provide the number of years of experience they had investigating procurement fraud. Respondents had the option to choose from the following:

- a. 0-2 years
- b. 3-5 years
- c. 6-10 years
- d. 11-20 years
- e. 20+ years

Similar to the question regarding the number of years of experience with AFOSI, selection “a” (0-2 years) was listed as an option because new AFOSI agents are typically serving in a probationary status for the first 18 months after graduating from BSIC at FLETC. When compared to agent experience in AFOSI, this category (0-2 years), allowed for analysis to determine which agents were relatively new to AFOSI and still on or had recently completed probationary time, as well as were new to investigating

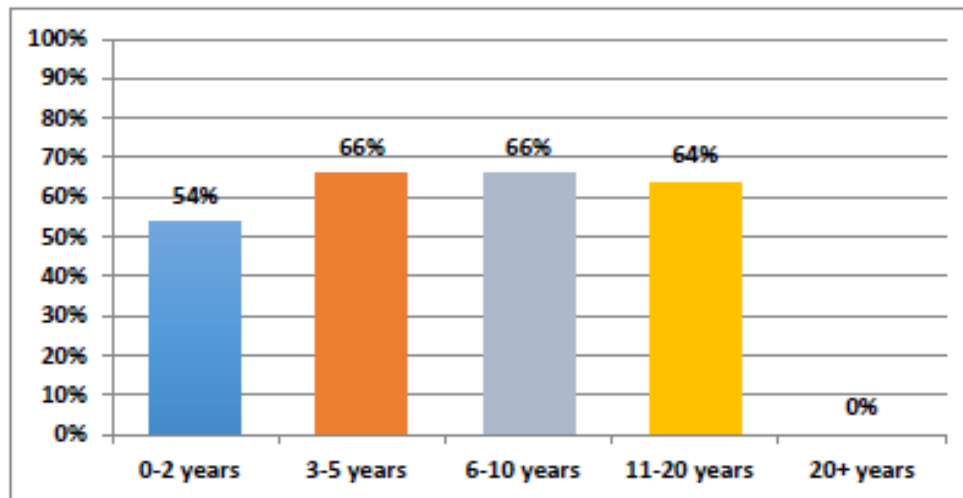
procurement fraud. Out of the 45 respondents, 76 percent of the respondents had five or less years of experience investigating procurement fraud. Agents with 0-2 years made up 38 percent of the sample, and agents with 3-5 years made up another 38 percent (Figure 22). None of the agents that participated in this research had more than 20 years of experience investigating procurement fraud, and only 11 percent of the agents had more than 10 years of experience. Figure 22, provides a visual representation of the experience of AFOSI agents investigating procurement fraud.

Figure 22. AFOSI Agent Experience Investigating Procurement Fraud



Agents with 0-2 years of experience investigating procurement fraud achieved an average overall score of 54 percent (Figure 23). Scores were highest among agents with 3-5 years and 6-10 years of experience with each group scoring an average overall score of 66 percent (Figure 23). From there, despite agents gaining experience, average overall scores decreased slightly to 64 percent for agents with 11-20 years of experience. Figure 23 shows the average overall scores based on procurement fraud investigative experience.

Figure 23. Average Overall Scores based on Experience Investigating Procurement Fraud



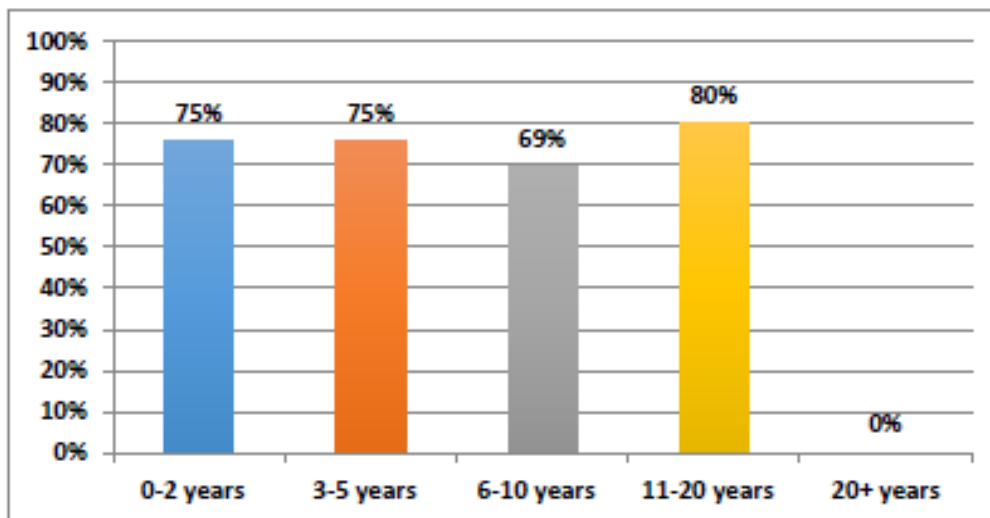
Similar to the experience in AFOSI category, agents were generally most knowledgeable about the solicitation phase (Phase 3) of the contract management process with an average overall score of 87 percent (Figure 7). Agents with 0-2 years of experience investigating procurement fraud scored an average overall score of 71 percent in the solicitation phase. It should be noted that if the 0-2 year category is excluded, the average overall score in the solicitation phase is 96 percent for agents with more than two years of experience investigating procurement fraud.

The phase in which agents scored the second highest was the contract closeout/termination phase (Phase 6) with an average overall score of 72 percent. In contrast, all agents, regardless of the level of procurement fraud investigative experience, generally scored the lowest on knowledge questions pertaining to the solicitation planning phase (Phase 2) of the contract management process with an average score of 31 percent. This indicates a general lack of knowledge or understanding on the solicitation planning phase.

The average overall score on the procurement fraud scheme questions was 75 percent. Scores pertaining to procurement fraud were highest among agents with 11-20 years of experience investigating procurement fraud with an average overall score of 80 percent (Figure 24). Scores for agents with five or less years of experience investigating

procurement fraud was 75 percent (Figure 24). The lowest scores were among agents with 6-10 years of experience investigating procurement fraud, with an average overall score of 69 percent on knowledge questions pertaining to procurement fraud schemes. Figure 24 shows the average overall scores on procurement fraud questions according to agent experience investigating procurement fraud. Appendix B shows the average scores for each category of procurement fraud investigative experience according to question type.

Figure 24. Average Scores on Procurement Fraud Questions based on Experience Investigating Procurement Fraud

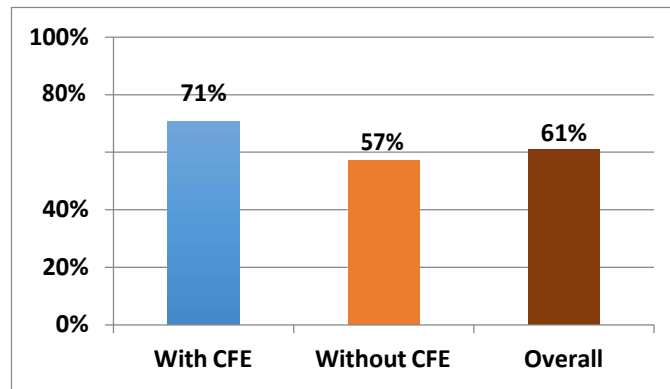


4. Analysis for Agents with Certified Fraud Examiner Credential

Out of the 45 agents that completed the demographic questions, 29 percent were credentialed by the ACFE. On average, CFE agents scored 14 percent higher on the entire assessment than agents without the credential. CFEs scored 17 percent higher on knowledge questions relating to the phases of the contract management process and 8 percent higher on knowledge questions related to procurement fraud schemes. Figure 25 shows a comparison of scores between agents with the CFE credential and agents without the credential. Agents with the CFE credential scored higher in each of the knowledge-based question categories than agents without the credential. However, like other groups, agents with the CFE credential also scored the lowest on knowledge questions relating to

the solicitation planning phase (Phase 2) of the contract management process with an average overall score of 46 percent. Additionally, CFEs scored highest on knowledge questions about the solicitation phase with 100 percent correct. Appendix C shows a comparison of knowledge levels on each of the categories of questions on the assessment tool between agents with the CFE credential and agents without the credential.

Figure 25. Average Overall Scores for Agents With and Agents Without the CFE Credential



5. Perception

The assessment tool consisted of eight perception-based questions. These questions asked participants to rate each statement on a five-point Likert Scale. Participants were able to select between the following:

5. Strongly agree
4. Agree
3. Neutral
2. Disagree
1. Strongly disagree
0. I don't know

Each of the answers corresponded to a number value that was used to determine the perception mean of the respondents. “Strongly agree” was rated as five points, “agree” as four points, “neutral” was three points, “disagree” was two points, “strongly

disagree” was one point, and “I don’t know” was zero points. Though responses varied, it should be noted that none of the respondents selected “I don’t know” for any of the questions.

Six of the questions were used to assess the respondents’ perceptions of their knowledge among the phases of the contract management process. One question was used to assess the respondents’ perception of their knowledge of procurement fraud. The last question was used to identify the perception of agents regarding the adequacy of procurement fraud investigation training provided by AFOSI.

Out of the 46 agents who participated in the research, 45 agents completed the perception-based questions of the assessment tool. The assessment tool asked participants if they had adequate knowledge of each phase of the contract management process (procurement planning, solicitation planning, solicitation, source selection, contract administration, contract closeout/termination) in order to perform procurement fraud investigative duties. In addition, in order to prevent confusion, each question also provided a brief description of the major functions occurring within its respective phase. Table 3 provides the results of the perception-based questions and reflects the perception mean of the respondents for each question.



Table 3. Means of Perception-Based Questions

<i>Perception-based Questions</i>	<i>Perception Mean 5: Strongly Agree – 1: Strongly Disagree</i>
I have adequate knowledge of the <u>Procurement Planning Phase</u> of the contract management to perform procurement fraud investigative duties.	3.16
I have adequate knowledge of the <u>Solicitation Planning Phase</u> of the contract management process to perform procurement fraud investigative duties.	3.24
I have adequate knowledge of the <u>Solicitation Phase</u> of the contract management process to perform procurement fraud investigative duties.	3.36
I have adequate knowledge of the <u>Source Selection Phase</u> of the contract management process to perform procurement fraud investigative duties.	3.38
I have adequate knowledge of the <u>Contract Administration Phase</u> of the contract management to perform procurement fraud investigative duties.	3.36
I have adequate knowledge of the <u>Contract Closeout/Termination Phase</u> of the contract management process to perform procurement fraud investigative duties.	3.20
I have adequate knowledge of <u>Procurement Fraud Schemes</u> to perform procurement fraud investigative duties.	4.09
AFOSI provides adequate training on contracting in order to effectively investigate procurement fraud.	2.69
Total Perception Mean	3.28

(1) Procurement planning

When asked about the procurement planning phase (Phase 1) of the contract management process, the majority of the agents, 49 percent (number of agents [n]=22), selected “agree” (Figure 26). The least selected response, 4 percent of the agents (n=2), was “strongly agree” (Figure 26). None of the respondents selected “I don’t know” (n=0) (Figure 26). The perception mean for all respondents was 3.16 on the Likert Scale (Table 3), which indicates a general perception of slightly above “neutral” about their knowledge on the procurement planning phase. However, the average overall score among all respondents for the knowledge-based questions on the procurement planning



phase of the contract management process was 60 percent (Figure 7). By academic standards, this would be equivalent to a grade of “D.”

Out of the 45 respondents, 4 percent of the agents (n=2), selected “strongly agree” when asked if they perceived that they had adequate knowledge of the procurement planning phase (Phase 1) of the contract management process to perform procurement fraud investigative duties (Figure 26). The average overall score for these agents on procurement planning phase related knowledge questions was 70 percent (Figure 26). By academic standards, this would be equivalent to a grade of “C.” Additionally, 49 percent of the agents (n=22) selected “agree” when asked if they perceived that they had adequate knowledge of the procurement planning phase of the contract management process to perform procurement fraud investigative duties (Figure 26). However, agents that selected “agree” achieved an average overall score of 62 percent on procurement planning phase related knowledge questions (Figure 26). By academic standards, this would be equivalent to a grade of “D.”

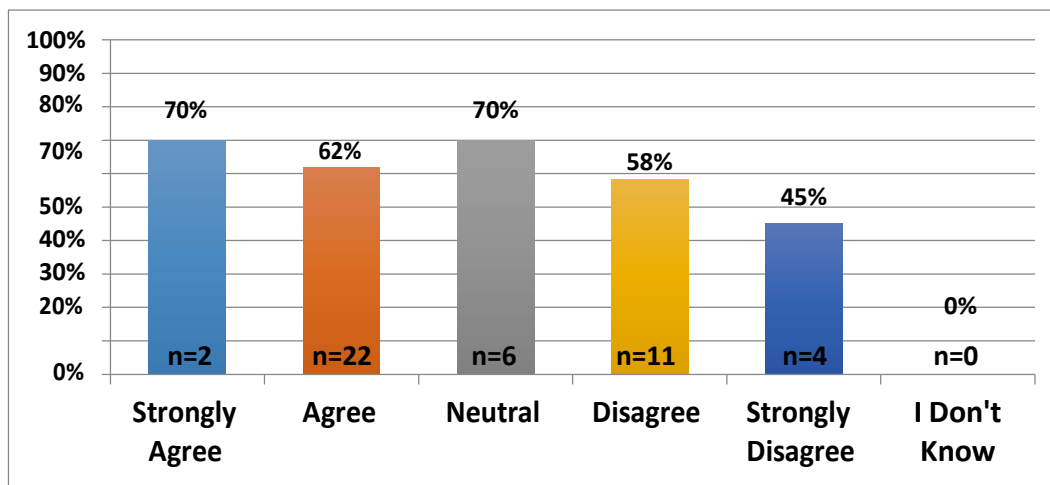
In order to assess the knowledge of the respondents with the perception that they had adequate knowledge, responses of “agree” and “strongly agree” were combined and assessed. In the procurement planning phase, 53 percent of the agents (n=24), responded with “agree” or “strongly agree.” Despite the perception that they had sufficient knowledge, when analyzed, the average overall score of these agents for this phase was 63 percent. By academic standards, this would be equivalent to a grade of “D.” In comparison, CFEs achieved an average overall score of 66 percent on knowledge questions in this phase.

In contrast, 9 percent of the agents (n=4), selected “strongly disagree” when asked if they perceived that they had adequate knowledge of the procurement planning phase of the contract management process to perform procurement fraud investigative duties (Figure 26). The average overall score for agents selecting “strongly disagree” was 45 percent (Figure 26). By academic standards, this would be equivalent to a grade of “F.” Additionally, agents that selected “disagree” (24 percent; n=11) scored an average overall score of 58 percent on knowledge questions pertaining to the procurement planning phase on the assessment (Figure 26). By academic standards, this would be equivalent to the



grade of “F.” Figure 26 shows the average overall score of agents on knowledge questions relating to the procurement planning phase of the contract management process based on their perception of knowledge for this phase.

Figure 26. Average Overall Score by Perception of Knowledge of Procurement Planning



AFOSI Agents participating in the assessment rated their perception of their knowledge about the procurement planning phase of the contract management process to perform their procurement fraud investigative duties. Agents had five options to select ranging from “strongly agree” to “strongly disagree,” or “I don’t know.” Here, “n” represents the number of respondents selecting a specific response (strongly agree – I don’t know), while the average overall knowledge score for each response is identified as a percent.

(2) Solicitation planning

When asked about the solicitation planning phase (Phase 2) of the contract management process, the majority of the agents, 51 percent (n=23), selected “agree” (Figure 27). The least selected responses were, “strongly agree,” 4 percent of the agents (n=2), and “strongly disagree,” 4 percent of the agents (n=2) (Figure 27). None of the respondents selected “I don’t know” (n=0) (Figure 27). The perception mean for all respondents was 3.24 on the Likert Scale (Table 3), which indicates a general perception of slightly above “neutral” about their knowledge on the solicitation planning phase. However, the average overall score among all respondents for the knowledge-based questions on the solicitation planning phase of the contract management process was 32 percent (Figure 7). By academic standards, this would be equivalent to a grade of “F.”



Out of the 45 respondents, 4 percent of the agents (n=2), selected “strongly agree” when asked if they perceived that they had adequate knowledge of the solicitation planning phase (Phase 2) of the contract management process to perform procurement fraud investigative duties (Figure 27). The average overall score for these agents on solicitation planning phase related knowledge questions was 50 percent (Figure 27). By academic standards, this would be equivalent to a grade of “F.” Additionally, 51 percent of the agents (n=23) selected “agree” when asked if they perceived that they had adequate knowledge of the solicitation planning phase of the contract management process to perform procurement fraud investigative duties (Figure 27). However, agents that selected “agree” achieved an average overall score of 32 percent on solicitation planning phase related knowledge questions (Figure 27). By academic standards, this would be equivalent to a grade of “F.”

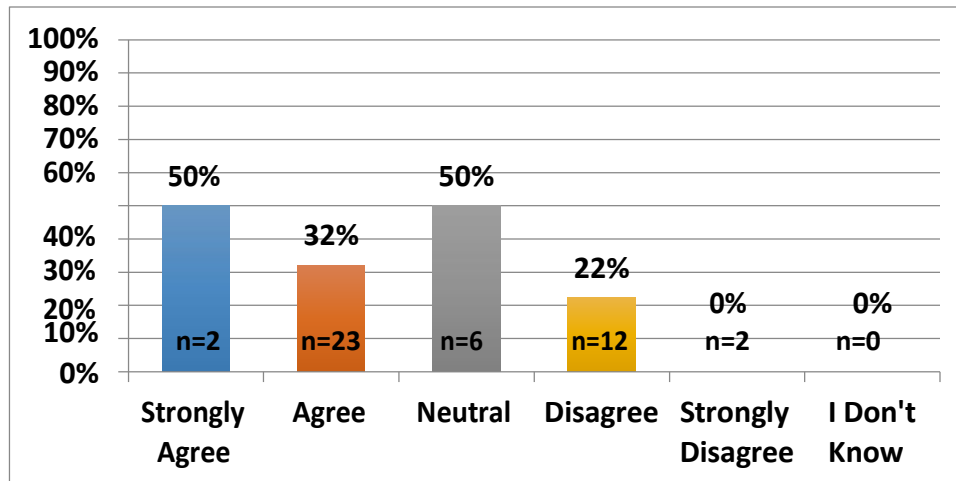
In order to assess the knowledge of the respondents with the perception that they had adequate knowledge, responses of “agree” and “strongly agree” were combined and assessed. In the solicitation planning phase, 56 percent of the agents (n=25) responded with “agree” or “strongly agree.” Despite the perception that they had sufficient knowledge, when analyzed, the average overall score of these agents for this phase was 33 percent. By academic standards, this would be equivalent to a grade of “F.” In comparison, CFEs achieved an average overall score of 46 percent on knowledge questions in this phase.

In contrast, 4 percent of the agents (n=2), selected “strongly disagree” when asked if they perceived that they had adequate knowledge of the solicitation planning phase of the contract management process to perform procurement fraud investigative duties (Figure 27). The average overall score for agents selecting “strongly disagree” was zero percent (Figure 27). By academic standards, this would be equivalent to a grade of “F.” Additionally, agents that selected “disagree” (27 percent; n=12) scored an average overall score of 22 percent on knowledge questions pertaining to the solicitation planning phase on the assessment (Figure 27). By academic standards, this would be equivalent to the grade of “F.” Figure 27 shows the average overall score of agents on knowledge



questions relating to the solicitation planning phase of the contract management process based on their perception of knowledge for this phase.

Figure 27. Average Score by Perception of Knowledge of Solicitation Planning



AFOSI Agents participating in the assessment rated their perception of their knowledge about the solicitation planning phase of the contract management process to perform their procurement fraud investigative duties. Agents had five options to select ranging from “strongly agree” to “strongly disagree,” or “I don’t know.” Here, “n” represents the number of respondents selecting a specific response (strongly agree – I don’t know), while the average overall knowledge score for each response is identified as a percent.

(3) Solicitation

When asked about the solicitation phase (Phase 3) of the contract management process, the majority of the agents, 49 percent (n=22), selected “agree” (Figure 28). The least selected response, 2 percent of the agents (n=1), was “strongly disagree” (Figure 28). None of the respondents selected “I don’t know” (n=0) (Figure 28). The perception mean for all respondents was 3.36 on the Likert Scale (Table 3), which indicates a general perception of slightly above “neutral” about their knowledge on the solicitation phase. However, the average overall score among all respondents for the knowledge-based questions on the solicitation phase of the contract management process was 87 percent (Figure 7). By academic standards, this would be equivalent to a grade of “B.”

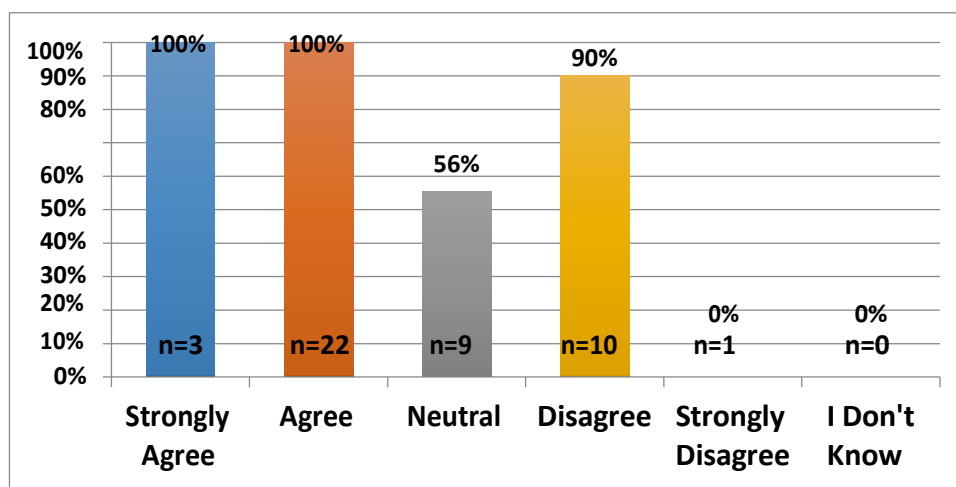
Out of the 45 respondents, 7 percent of the agents (n=3), selected “strongly agree” when asked if they perceived that they had adequate knowledge of the solicitation phase (Phase 3) of the contract management process to perform procurement fraud investigative duties (Figure 28). The average overall score for these agents on solicitation phase related knowledge questions was 100 percent (Figure 28). By academic standards, this would be equivalent to a grade of “A.” Additionally, 49 percent of the agents (n=22) selected “agree” when asked if they perceived that they had adequate knowledge of the solicitation phase of the contract management process to perform procurement fraud investigative duties (Figure 28). Agents that selected “agree” also achieved an average overall score of 100 percent on solicitation phase related knowledge questions (Figure 28). By academic standards, this would also be equivalent to a grade of “A.”

In order to assess the knowledge of the respondents with the perception that they had adequate knowledge, responses of “agree” and “strongly agree” were combined and assessed. In the solicitation phase, 56 percent of the agents (n=25) responded with “agree” or “strongly agree.” When analyzed, the average overall score of these agents for this phase was 100 percent. By academic standards, this would be equivalent to a grade of “A.” In comparison, CFEs also achieved an average overall score of 100 percent on knowledge questions in this phase.

In contrast, 2 percent of the agents (n=1), selected “strongly disagree” when asked if they perceived that they had adequate knowledge of the solicitation phase of the contract management process to perform procurement fraud investigative duties (Figure 28). The average overall score for agents selecting “strongly disagree” was zero percent (Figure 28). By academic standards, this would be equivalent to a grade of “F.” Additionally, agents that selected “disagree” (22 percent; n=10) scored an average overall score of 90 percent on knowledge questions pertaining to the solicitation phase on the assessment (Figure 28). By academic standards, this would be equivalent to the grade of “A.” Figure 28 shows the average overall score of agents on knowledge questions relating to the solicitation phase of the contract management process based on their perception of knowledge for this phase.



Figure 28. Average Score by Perception of Knowledge of Solicitation Phase



AFOSI Agents participating in the assessment rated their perception of their knowledge about the solicitation phase of the contract management process to perform their procurement fraud investigative duties. Agents had five options to select ranging from “strongly agree” to “strongly disagree,” or “I don’t know.” Here, “n” represents the number of respondents selecting a specific response (strongly agree – I don’t know), while the average overall knowledge score for each response is identified as a percent.

(4) Source selection

When asked about the source selection phase (Phase 4) of the contract management process, the majority of the agents, 51 percent (n=23), selected “agree” (Figure 29). The least selected response, 2 percent of the agents (n=1), was “strongly disagree” (Figure 29). None of the respondents selected “I don’t know” (n=0) (Figure 29). The perception mean for all respondents was 3.38 on the Likert Scale (Table 3), which indicates a general perception of slightly above “neutral” about their knowledge on the source selection phase. However, the average overall score among all respondents for the knowledge-based questions on the source selection phase of the contract management process was 57 percent (Figure 7). By academic standards, this would be equivalent to a grade of “F.”

Out of the 45 respondents, 7 percent of the agents (n=3), selected “strongly agree” when asked if they perceived that they had adequate knowledge of the source selection phase (Phase 4) of the contract management process to perform procurement fraud investigative duties (Figure 29). The average overall score for these agents on source

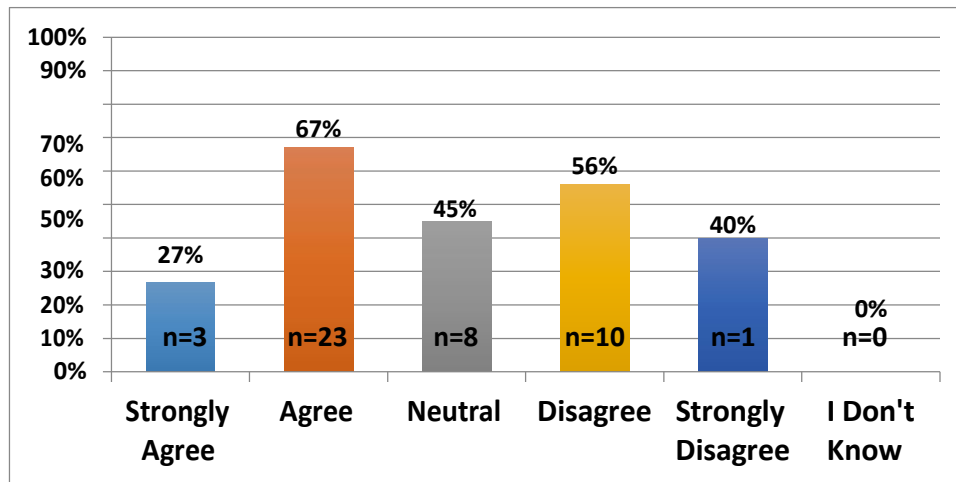
selection phase related knowledge questions was 27 percent (Figure 29). By academic standards, this would be equivalent to a grade of “F.” Additionally, 51 percent of the agents (n=23) selected “agree” when asked if they perceived that they had adequate knowledge of the source selection phase of the contract management process to perform procurement fraud investigative duties (Figure 29). However, agents that selected “agree” achieved an average overall score of 67 percent on source selection phase related knowledge questions (Figure 29). By academic standards, this would be equivalent to a grade of “D.”

In order to assess the knowledge of the respondents with the perception that they had adequate knowledge, responses of “agree” and “strongly agree” were combined and assessed. In the source selection phase, 58 percent of the agents (n=26) responded with “agree” or “strongly agree.” Despite the perception that they had sufficient knowledge, when analyzed, the average overall score of these agents for this phase was 62 percent. By academic standards, this would be equivalent to a grade of “D.” In comparison, CFEs achieved an average overall score of 68 percent on knowledge questions in this phase.

In contrast, 2 percent of the agents (n=1), selected “strongly disagree” when asked if they perceived that they had adequate knowledge of the source selection phase of the contract management process to perform procurement fraud investigative duties (Figure 29). The average overall score for agents selecting “strongly disagree” was 40 percent (Figure 29). By academic standards, this would be equivalent to a grade of “F.” Additionally, agents that selected “disagree” (22 percent; n=10) scored an average overall score of 56 percent on knowledge questions pertaining to the source selection phase on the assessment (Figure 29). By academic standards, this would be equivalent to the grade of “F.” Figure 29 shows the average overall score of agents on knowledge questions relating to the source selection phase of the contract management process based on their perception of knowledge for this phase.



Figure 29. Average Score by Perception of Knowledge of Source Selection Phase



AFOSI Agents participating in the assessment rated their perception of their knowledge about the source selection phase of the contract management process to perform their procurement fraud investigative duties. Agents had five options to select ranging from “strongly agree” to “strongly disagree,” or “I don’t know.” Here, “n” represents the number of respondents selecting a specific response (strongly agree – I don’t know), while the average overall knowledge score for each response is identified as a percent.

(5) Contract administration

When asked about the contract administration phase (Phase 5) of the contract management process, the majority of the agents, 58 percent (n=26), selected “agree” (Figure 30). The least selected responses were, “strongly agree,” 4 percent of the agents (n=2), and “strongly disagree,” 4 percent of the agents (n=2) (Figure 30). None of the respondents selected “I don’t know” (n=0) (Figure 30). The perception mean for all respondents was 3.36 on the Likert Scale (Table 3), which indicates a general perception of slightly above “neutral” about their knowledge on the contract administration phase. However, the average overall score among all respondents for the knowledge-based questions on the contract administration phase of the contract management process was 56 percent (Figure 7). By academic standards, this would be equivalent to a grade of “F.”

Out of the 45 respondents, 4 percent of the agents (n=2), selected “strongly agree” when asked if they perceived that they had adequate knowledge of the contract administration phase (Phase 5) of the contract management process to perform

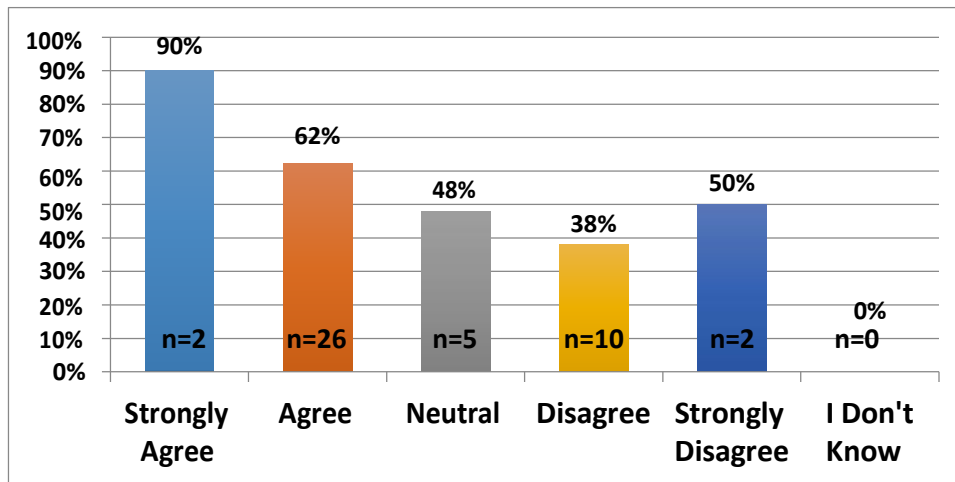
procurement fraud investigative duties (Figure 30). The average overall score for these agents on contract administration phase related knowledge questions was 90 percent (Figure 30). By academic standards, this would be equivalent to a grade of “A.” Additionally, 58 percent of the agents (n=26) selected “agree” when asked if they perceived that they had adequate knowledge of the contract administration phase of the contract management process to perform procurement fraud investigative duties (Figure 30). However, agents that selected “agree” achieved an average overall score of 62 percent on contract administration phase related knowledge questions (Figure 30). By academic standards, this would be equivalent to a grade of “D.”

In order to assess the knowledge of the respondents with the perception that they had adequate knowledge, responses of “agree” and “strongly agree” were combined and assessed. In the contract administration phase, 62 percent of the agents (n=28) responded with “agree” or “strongly agree.” Despite the perception that they had sufficient knowledge, when analyzed, the average overall score of these agents for this phase was 64 percent. By academic standards, this would be equivalent to a grade of “D.” In comparison, CFEs achieved an average overall score of 68 percent on knowledge questions in this phase.

In contrast, 4 percent of the agents (n=2), selected “strongly disagree” when asked if they perceived that they had adequate knowledge of the contract administration phase of the contract management process to perform procurement fraud investigative duties (Figure 30). The average overall score for agents selecting “strongly disagree” was 50 percent (Figure 30). By academic standards, this would be equivalent to a grade of “F.” Additionally, agents that selected “disagree” (22 percent; n=10) scored an average overall score of 38 percent on knowledge questions pertaining to the contract administration phase on the assessment (Figure 30). By academic standards, this would be equivalent to the grade of “F.” Figure 30 shows the average overall score of agents on knowledge questions relating to the contract administration phase of the contract management process based on their perception of knowledge for this phase.



Figure 30. Average Score by Perception of Knowledge of Contract Administration



AFOSI Agents participating in the assessment rated their perception of their knowledge about the contract administration phase of the contract management process to perform procurement fraud investigative duties. Agents had five options to select ranging from “strongly agree” to “strongly disagree,” or “I don’t know.” Here, “n” represents the number of respondents selecting a specific response (strongly agree – I don’t know), while the average overall knowledge score for each response is identified as a percent.

(6) Contract closeout/termination

When asked about the contract closeout/termination phase (Phase 6) of the contract management process, the majority of the agents, 51 percent (n=23), selected “agree” (Figure 31). The least selected responses were, “strongly agree,” 2 percent of the agents (n=1), and “strongly disagree,” 2 percent of the agents (n=1) (Figure 31). None of the respondents selected “I don’t know” (n=0) (Figure 31). The perception mean for all respondents was 3.20 on the Likert Scale (Table 3), which indicates a general perception of slightly above “neutral” about their knowledge on the contract closeout/termination phase. However, the average overall score among all respondents for the knowledge-based questions on the contract closeout/termination phase of the contract management process was 72 percent (Figure 7). By academic standards, this would be equivalent to a grade of “C.”

Out of the 45 respondents, 2 percent of the agents (n=1), selected “strongly agree” when asked if they perceived that they had adequate knowledge of the contract

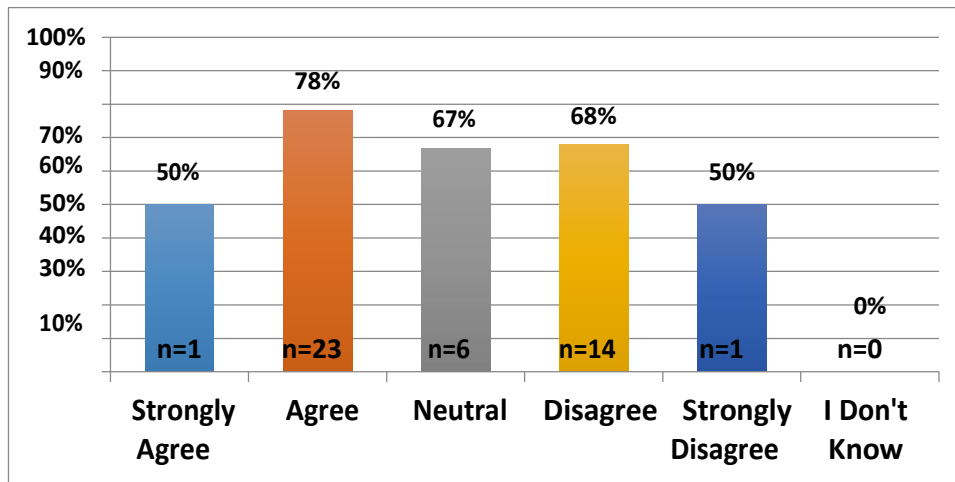
closeout/termination phase (Phase 6) of the contract management process to perform procurement fraud investigative duties (Figure 31). The average overall score for these agents on contract closeout/termination phase related knowledge questions was 50 percent (Figure 31). By academic standards, this would be equivalent to a grade of “F.” Additionally, 51 percent of the agents (n=23) selected “agree” when asked if they perceived that they had adequate knowledge of the contract closeout/termination phase of the contract management process to perform procurement fraud investigative duties (Figure 31). However, agents that selected “agree” achieved an average overall score of 78 percent on contract closeout/termination phase related knowledge questions (Figure 31). By academic standards, this would be equivalent to a grade of “C.”

In order to assess the knowledge of the respondents with the perception that they had adequate knowledge, responses of “agree” and “strongly agree” were combined and assessed. In the contract closeout/termination phase, 53 percent of the agents (n=24) responded with “agree” or “strongly agree.” Despite the perception that they had sufficient knowledge, when analyzed, the average overall score of these agents for this phase was 77 percent. By academic standards, this would be equivalent to a grade of “C.” In comparison, CFEs achieved an average overall score of 88 percent on knowledge questions in this phase.

In contrast, 2 percent of the agents (n=1), selected “strongly disagree” when asked if they perceived that they had adequate knowledge of the contract closeout/termination phase of the contract management process to perform procurement fraud investigative duties (Figure 31). The average overall score for agents selecting “strongly disagree” was 50 percent (Figure 31). By academic standards, this would be equivalent to a grade of “F.” Additionally, agents that selected “disagree” (31 percent; n=14) scored an average overall score of 68 percent on knowledge questions pertaining to the contract closeout/termination phase on the assessment (Figure 31). By academic standards, this would be equivalent to the grade of “D.” Figure 31 shows the average overall score of agents on knowledge questions relating to the contract closeout/termination phase of the contract management process based on their perception of knowledge for this phase.



Figure 31. Average Score by Perception of Knowledge of Contract Closeout/Termination



AFOSI Agents participating in the assessment rated their perception of their knowledge about the contract closeout/termination phase of the contract management process to perform procurement fraud investigative duties. Agents had five options to select ranging from “strongly agree” to “strongly disagree,” or “I don’t know.” Here, “n” number of respondents selecting a specific response (strongly agree – I don’t know), while the average overall knowledge score for each response is identified as a percent.

(7) Procurement Fraud Schemes

When asked about procurement fraud schemes, the majority of the agents, 56 percent (n=25), selected “agree” (Figure 32). The least selected response, 4 percent of the agents (n=2), was “neutral” (Figure 32). None of the respondents selected “strongly disagree” (n=0) nor “I don’t know” (n=0) (Figure 32). The perception mean for all respondents was 4.09 on the Likert Scale (Table 3), which indicates a general perception of slightly above “agree” about their knowledge on procurement fraud schemes. However, the average overall score among all respondents for the knowledge-based questions on the procurement fraud schemes was 75 percent (Figure 7). By academic standards, this would be equivalent to a grade of “C.”

Out of the 45 respondents, 31 percent of the agents (n=14), selected “strongly agree” when asked if they perceived that they had adequate knowledge of procurement fraud schemes to perform procurement fraud investigative duties (Figure 32). The average overall score for these agents on procurement fraud scheme related knowledge

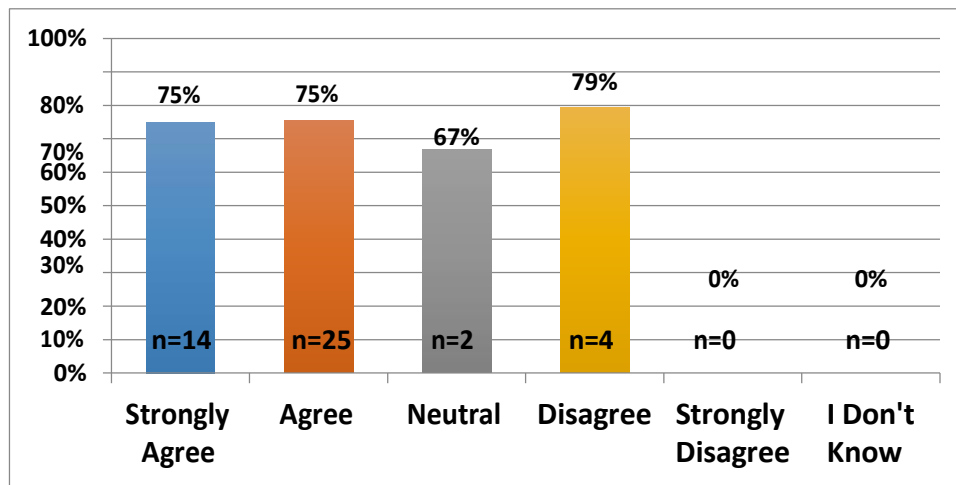
questions was 75 percent (Figure 32). By academic standards, this would be equivalent to a grade of “C.” Additionally, 56 percent of the agents (n=25) selected “agree” when asked if they perceived that they had adequate knowledge of the procurement fraud schemes to perform procurement fraud investigative duties (Figure 32). However, agents that selected “agree” achieved an average overall score of 75 percent on procurement fraud scheme related knowledge questions (Figure 32). By academic standards, this would be equivalent to a grade of “C.”

In order to assess the knowledge of the respondents with the perception that they had adequate knowledge, responses of “agree” and “strongly agree” were combined and assessed. With regard to procurement fraud schemes, 87 percent of the agents (n=39) responded with “agree” or “strongly agree.” Despite the perception that they had sufficient knowledge, when analyzed, the average overall score of these agents for questions related to procurement fraud schemes was 75 percent. By academic standards, this would be equivalent to a grade of “C.” In comparison, CFEs achieved an average overall score of 81 percent on knowledge questions in this phase.

In contrast, none of the agents selected “strongly disagree” and 9 percent of the agents (n=4), selected “disagree” when asked if they perceived that they had adequate knowledge of the procurement fraud schemes to perform procurement fraud investigative duties (Figure 32). The average overall score for agents selecting “disagree” was 79 percent (Figure 32). By academic standards, this would be equivalent to a grade of “C.” Figure 32 shows the average overall score of agents on knowledge questions relating to procurement fraud schemes based on their perception of knowledge of procurement fraud schemes.



Figure 32. Average Score by Perception of Knowledge of Procurement Fraud



AFOSI Agents participating in the assessment rated their perception of their knowledge about procurement fraud schemes to perform procurement fraud investigative duties. Agents had five options to select ranging from “strongly agree” to “strongly disagree,” or “I don’t know.” Here, “n” represents the number of respondents selecting a specific response (strongly agree – I don’t know), while the average overall knowledge score for each response is identified as a percent.

(8) Adequacy of AFOSI Training on Contracting

When asked about the adequacy of AFOSI training on “contracting,” the majority of the agents, 36 percent (n=16), selected “disagree.” The least selected response was, “strongly agree,” 4 percent (n=2). None of the respondents selected “I don’t know” (n=0). The perception mean for all respondents was 2.69 on the Likert Scale (Table 3), which indicates a general perception of slightly below “neutral” about the adequacy of AFOSI training on “contracting.”

It is interesting that more than half of the agents that participated in this research, 51 percent (n=23), selected “disagree” or “strongly disagree” and assessed the training available within AFOSI on contracting as inadequate to effectively investigate procurement fraud. Conversely, 31 percent of the agents (n=14) perceived that they had adequate training. Additionally, regardless of the agents’ perception of the AFOSI training on “contracting,” the result of all of the knowledge-based questions was an average overall score of 61 percent among all of the respondents.

D. IMPLICATIONS

Based on the research findings, there may be implications for AFOSI procurement fraud investigators. As previously discussed, competent personnel is one of the key aspects of auditability. Without auditability, the Air Force is highly susceptible to procurement fraud. The assessment results suggest that, perhaps, AFOSI procurement fraud agents are not as competent as they should be, specifically in terms of contract management. In order to be effective procurement fraud investigators, AFOSI procurement fraud agents may require additional knowledge of contracting processes. In order to close this knowledge gap, some recommendations are provided that may enable AFOSI procurement fraud agents to gain a better understanding of the contract management process and, therefore, be better equipped to identify procurement fraud indicators earlier in the contract management process.

Perhaps one of the most significant implications of AFOSI agents' performance on the assessment is that the training provided to agents may be imbalanced. The analysis showed that the average score of AFOSI agents was 61 percent on the knowledge portion of the assessment. From an academic standpoint, this score is equivalent to a grade of "D." Additionally, 74 percent of the agents that participated in this research scored below 70 percent on the knowledge assessment, which is less than the general academic average grade of "C." The sample population in this research represented approximately half of AFOSI's procurement fraud agents. While this is not an indication of poor performance or an inability to investigate procurement fraud, it may suggest that investigators may not have a strong enough foundation on the contract management process to efficiently investigate procurement fraud.

One possible explanation for the low scores is that, perhaps, AFOSI agents' procurement fraud training is focused more on fraud in general and not specifically on procurement fraud and its relation to the contract management process. Although agents are encouraged to attend additional and advanced contract and procurement fraud training by senior leadership, it is not mandatory. Gaffney and Essex (2014) analyzed the AFOSI procurement fraud body of knowledge and compared it to the body of knowledge used in ACFE training certification guides to identify overlaps and gaps in AFOSI training.



During initial AFOSI training, agents receive an overview of the procurement process; however, the level of training provided may not be sufficient to properly equip agents to understand the contract management process (USAFSIA, 2014c). Procurement fraud investigation is a major AFOSI mission, which encompasses 12 percent of the 41 total fraud competencies required for agents to be credentialed by the AFOSI (Gaffney & Essex, 2014). As a result of the findings in this research, training that is more specific may be needed to ensure agents understand the contract management process.

Chang (2013) and Castillo and Flanigan (2014) reported that contracting officers in both the Army and the Air Force did not suspect procurement fraud or consider their organizations vulnerable to procurement fraud schemes. In addition, the contracting officers' generally had low scores on knowledge-based questions relating to procurement fraud even though they self-reported that they had enough procurement fraud knowledge to do their job. This indicates that contracting officers may not have the necessary knowledge or understanding required to identify procurement fraud schemes (Castillo & Flanigan, 2014; Chang, 2013).

In this research study, according to the results of the perception questions, 56 percent of the AFOSI respondents perceived they had adequate knowledge of the contract management process to sufficiently investigate procurement fraud. Moreover, according to the results of the perception questions, 87 percent of the AFOSI respondents perceived they had adequate knowledge of procurement fraud schemes to perform procurement fraud investigative duties. However, the overall results of the knowledge-based questions did not correspond to these perceptions, as the average overall score for contract management process knowledge-based questions was 61 percent among all respondents while the average overall score for procurement fraud scheme questions was 75 percent among all respondents. It is interesting to note that despite the aforementioned results of the perception questions, 52 percent of the agents indicated that they did not perceive AFOSI provided adequate training on contracting in order to effectively investigate procurement fraud.

These findings suggest that AFOSI agents may be over-confident in their knowledge of the contract management process. When combined with the over-



confidence of contracting officers' knowledge of procurement fraud as indicated by Chang (2013) and Castillo and Flanigan (2014), there may be a significant knowledge gap in the competent people component of the auditability triangle. This could greatly hinder the ability to identify and investigate procurement fraud within the contract management process. This is especially significant when considering Tan's (2013) research, which indicated that the source selection and contract administration phases of the contract management process were the most vulnerable to procurement fraud schemes. It should also be noted that procurement fraud is six times more likely to occur in the contract administration phase than in any other phase of the contract management process (as cited in Tan, 2013).

In this research study, the average overall score for all AFOSI respondents was 57 percent in the source selection phase and 56 percent in the contract administration phase (Figure 7). By academic standards, these scores would be equivalent to grades of "F." If neither contracting officers nor procurement fraud investigators have sufficient knowledge to detect procurement fraud red flags, the Air Force may be more vulnerable to procurement fraud than previously perceived. This may indicate that, perhaps, additional training on the contract management process may make AFOSI agents more knowledgeable and, therefore, more effective at identifying and even investigating procurement fraud.

E. RECOMMENDATIONS BASE ON ANALYSIS

Based on the results of this research, a better understanding of the contract management process may enable AFOSI procurement fraud agents to identify procurement fraud earlier in the contract management process. Based on the analysis, the following recommendations have been identified as possible approaches that AFOSI may consider in the development of procurement fraud agents to enhance applicable knowledge levels.

a. Training

In order to understand and remain knowledgeable about the contract management process and procurement fraud, agents assigned to the Office of Procurement Fraud must



be developed in a manner that is rooted in the latest changes as well as historic trends of procurement fraud. Moreover, while knowledge of all the different phases of the contract management process is important, due to the current risk and vulnerability associated with the source selection and contract administration phases of the contract management process as reported by Tan (2013), agents should consider a more in-depth understanding of these areas. While agents are able to partner with Air Force contracting officers for assistance when needed, they cannot always rely on contracting officers to assist them throughout an investigation. Additionally, having a better understanding of the contract management process and related terminology may enhance the relationship between AFOSI and contracting organizations.

Based on the analysis, it is recommended that AFOSI agents assigned to procurement fraud units attend training similar to the Defense Acquisition University (DAU) Mission Ready Contracting Officer's Course as part of their assignment to a PFU. Although this training is made available to agents, many do not attend (C. Collins, personal interview, June 29, 2015). This research also suggests that AFOSI procurement fraud training may not be properly balanced with adequate focus on the phases of the contract management process. More than half of the agents who participated in this research did not feel they were adequately trained in contract management to investigate procurement fraud. Mandating fraud agents to take DAU specific contracting courses may help close the knowledge gap and possibly enable agents to be more efficient at identifying procurement fraud.

AFOSI agents do not need a level of knowledge that is equal to contracting officers; however, there should be a command standard knowledge level for AFOSI procurement fraud agents comparable to other AFOSI specialized missions. In order to properly establish a required understanding of the contract management process, a new training could be developed with a focus on "contract management for procurement fraud investigators." This training may be a prerequisite for agents prior to an initial assignment to a Procurement Fraud Unit (PFU). Additionally, training should not merely be encouraged, but considered a mandatory component of professional development. With this type of deliberate development of procurement fraud agents, AFOSI will produce



capable and efficient procurement fraud investigators as well as leaders for the AFOSI Office of Procurement Fraud. Moreover, it may cultivate future leaders of PFUs who will have the necessary understanding of procurement fraud and the contract management process enabling them to investigate procurement fraud more effectively and efficiently.

b. Certifications

While training alone will likely benefit procurement fraud agents, additional steps could be taken to develop procurement fraud agents as professionals in the industry. Similar to agents attending training at the Federal Law Enforcement Training Center (FLETC) to transform agent trainees into credentialed federal agents, professional certifications would put AFOSI procurement fraud agents on par with agency counterparts.

(1) Occupational Certifications

Based on this research, it is recommended that AFOSI leadership require procurement fraud agents to earn and maintain a DAU, or equivalent, certification. This may include a currently offered certification, or perhaps, a new, specialized acquisition code. Agents assigned to PFUs could be given a special acquisition code requiring them to earn continuous learning points to maintain certification level. Agents could then have the option to maintain the certification upon reassignment outside of the Office of Procurement Fraud. The certification standards would include topics on procurement fraud as well as the contract management process.

(2) Professional Certifications

Agents that were CFEs that participated in this research scored an average of 14 percent higher than those without the certification. ACFE is the certifying professional association for fraud investigators and requires 40 credit hours of continuing professional education (CPE) every two years to maintain the certification (Essex & Gaffney, 2014). In order to promote an investigative force that is up to date on the latest information on the contract management process as well as procurement fraud, AFOSI should consider sponsoring procurement fraud agents, who meet pre-determined criteria as identified by AFOSI, to earn the CFE certification. Maintaining this certification will also ensure that



procurement fraud agents remain sharp in their ability to investigate procurement fraud. Acquisition professionals, such as contracting officers, are also encouraged to obtain certifications from professional associations like the National Contract Management Association (NCMA). These professional associations offer training and resources as well as provide a network to increase the body of knowledge that will foster learning that is necessary in an industry that is constantly evolving with updated policies and regulations.

c. Academic Education

In order to develop capable and competent procurement fraud agents as well as leaders of procurement fraud units, it is recommended that AFOSI seek additional billets and send more procurement fraud agents to the Naval Postgraduate School's (NPS) government acquisition and contract management master's degree program. The level of instruction and learning that takes place at NPS would provide agents an enhanced level of knowledge and understanding that would better equip them to navigate the dynamics of contract management. Additionally, the DAU accepts equivalency credit for many of the courses in the NPS government acquisition and contract management curriculum. Finally, NPS students have the opportunity to earn several different professional certifications such as those offered by NCMA and ACFE.

F. SUMMARY

This chapter presented the results of the assessment by discussing the findings, analysis, and implications of this research. Findings were analyzed according to employment category, experience in AFOSI, experience investigating procurement fraud, and by CFE certification. Findings were evaluated according to each phase of the contract management process as well as procurement fraud schemes. Findings were also analyzed and compared to the results from the perception questions of the assessment tool. Additionally, the findings and analysis were compared to previous research in order to identify potential implications. Lastly, recommendations were provided to improve the knowledge level of AFOSI procurement fraud agents. The purpose of this research was to assess AFOSI's procurement fraud agents' knowledge of the contract management



process and procurement fraud schemes, as well as to evaluate their perception of knowledge in those areas. The next chapter, Chapter VI, will present the summary, conclusions, and areas for future research.



VI. SUMMARY, CONCLUSIONS, AND AREAS FOR FURTHER RESEARCH

A. SUMMARY

The Department of Defense's (DOD) contracting function plays a vital role in the success of the mission. The magnitude of contracted supplies and services demands that public officials ensure taxpayer dollars are spent wisely. This increased reliance on contract support has made it more difficult to ensure integrity, accountability, and transparency in government operations (Cohen & Eimicke, 2008). Therefore, to prevent fraud, waste, and abuse in federal contracting, organizations must be auditable (Rendon & Rendon, 2015). Auditability requires competent people, capable processes, and effective internal controls (Rendon & Rendon, 2015). To ensure auditability in the procurement environment and protect against fraud, waste, and abuse, the DOD needs procurement fraud investigators to be competent in the contract management process and procurement fraud schemes.

The purpose of this research was to assess the Air Force Office of Special Investigation's (AFOSI) procurement fraud agents' knowledge of the contract management process and procurement fraud schemes, as well as to evaluate their perception of knowledge in those areas. The AFOSI has the responsibility of investigating allegations of procurement fraud. While any AFOSI agent could be called upon to assist with a procurement fraud investigation, procurement fraud investigations are typically relegated to agents assigned to a Procurement Fraud Unit (PFU). The potential pool of AFOSI procurement fraud agents who were surveyed in this research had varying backgrounds and years of experience working in AFOSI. The research methodology was presented to show how data was collected to assess AFOSI procurement fraud agents' knowledge of the contract management process and procurement fraud schemes as well as their perception of their knowledge in those areas. The methodology consisted of a survey instrument that served as the assessment tool. The assessment tool was deployed to the 83 total AFOSI agents assigned to procurement



fraud units. The questions used in the assessment included knowledge-based, perception-based, and demographic questions.

B. CONCLUSIONS

This research project consisted of three research questions. Below are the research questions and summary findings from the research.

1. What are AFOSI procurement fraud agents' knowledge levels of the phases of the contract management process?

The average overall score on the knowledge-based questions for all procurement fraud agents who participated in this research was 61 percent. Between the military and civilian agents who participated in this research, civilian agents out-performed the military with an average score of 67 percent versus officer agents who scored an average of 56 percent and enlisted agents who scored an average of 54 percent (Figure 9). Agents with a Certified Fraud Examiner (CFE) credential scored 17 percent higher on questions relating to the phases of the contract management process than those without the CFE credential.

The results of the assessment showed the average overall score among all respondents for the procurement planning phase (Phase 1) was 60 percent (Figure 7). Agents scored the lowest in the solicitation planning phase (Phase 2) with an average overall score of 32 percent among all respondents (Figure 7). Agents had the highest overall score in the solicitation phase (Phase 3) with an average overall score among all respondents of 87 percent (Figure 7). The average overall score among all respondents for the source selection phase (Phase 4) was 57 percent (Figure 7). The average overall score among all respondents for the contract administration phase (Phase 5) was 56 percent (Figure 7). The average overall score among all respondents for the contract closeout/termination phase (Phase 6) was 72 percent (Figure 7). It is interesting to note that procurement fraud agents' years of experience in AFOSI and investigating procurement fraud did have an impact on the knowledge levels as reflected in the average overall scores.



Based on these findings, because procurement fraud agents are supposed to be knowledgeable of the contract management process and procurement fraud schemes, procurement fraud agents may benefit from having more knowledge of the contract management process. The results of this assessment suggest that the AFOSI fraud agent training is imbalanced and may need to be re-focused to include more training on the contract management process.

2. What are AFOSI procurement fraud agents' knowledge levels of contracting as related to procurement fraud schemes?

The procurement fraud scheme knowledge was analyzed separately and the average overall score among all respondents for procurement fraud schemes questions was 75 percent (Figure 7). The assessment included one question related to procurement fraud schemes within each phase of the contract management process. Scores among civilian, officer, and enlisted agents were very similar. Civilian and enlisted agents both scored an average of 75 percent (Figure 12 and Figure 18 respectively) while officer agents scored slightly higher with an average of 77 percent (Figure 15). It is interesting to note that procurement fraud agents' years of experience in AFOSI and investigating procurement fraud had little impact on the knowledge of procurement fraud schemes as reflected in the scores.

The average overall score among all respondents for the procurement fraud scheme question related to the procurement planning phase (Phase 1) was 93 percent. The average overall score among all respondents for the procurement fraud scheme question related to the solicitation planning phase (Phase 2) was also 93 percent. The average overall score among all respondents for the procurement fraud scheme question related to the solicitation phase (Phase 3) was 91 percent. The average overall score among all respondents for the procurement fraud scheme question related to the source selection phase (Phase 4) was 17 percent. The average overall score among all respondents for the procurement fraud scheme question related to the contract administration phase (Phase 5) was 96 percent. The average overall score among all respondents for the procurement fraud scheme question related to the contract closeout/termination phase (Phase 6) was 59 percent. Agents with a Certified Fraud Examiner (CFE) credential scored 8 percent



higher on questions relating to procurement fraud schemes within the phases of the contract management process than those without the CFE credential.

From an academic standpoint, the agents who participated in this research scored significantly high (overall scores ranged from 91 percent to 96 percent) on the majority of the procurement fraud scheme questions. However, failing scores on procurement fraud scheme questions related to the source selection and contract closeout/termination phases brought the average overall score down. These findings suggest that generally procurement fraud agents have adequate knowledge of procurement fraud schemes to investigate procurement fraud; however, agents may benefit from additional training in the source selection and contract closeout/termination phases. This is especially true given the findings from Tan's (2013) research, which indicated that the source selection and contract administration phases of the contract management process were the most vulnerable to procurement fraud schemes.

3. What are AFOSI procurement fraud agents' perceptions of their knowledge of the contract management process and procurement fraud schemes?

The assessment tool in this research included eight perception questions. Six of the questions were devoted to agents' perceptions of their knowledge related to each contract management phase and whether they felt they had enough knowledge of that phase to investigate procurement fraud. The total overall perception mean among all respondents on all of the perception questions was 3.28 on the Likert Scale (Table 3), which is slightly above "neutral." This relates to the average overall score of the knowledge-based questions pertaining to the contract management process, which was 61 percent.

Within each phase of the contract management process, the perception mean for the procurement planning phase was 3.16 on the Likert Scale (Table 3) indicating a general perception of slightly above "neutral." However, the average overall score for knowledge questions on the procurement planning phase was 60 percent (Figure 7). The perception mean for the solicitation planning phase was 3.24 on the Likert Scale (Table 3) indicating a general perception of slightly above "neutral." However, the average



overall score for knowledge questions on the solicitation planning phase was 32 percent (Figure 7). The perception mean for the solicitation phase was 3.36 on the Likert Scale (Table 3) indicating a general perception of slightly above “neutral.” The average overall score for knowledge questions on the solicitation phase was 87 percent (Figure 7). The perception mean for the source selection phase was 3.38 on the Likert Scale (Table 3) indicating a general perception of slightly above “neutral.” However, the average overall score for knowledge questions on the source selection phase was 57 percent (Figure 7). The perception mean for the contract administration phase was 3.36 on the Likert Scale (Table 3) indicating a general perception of slightly above “neutral.” However, the average overall score for knowledge questions on the contract administration phase was 56 percent (Figure 7). The perception mean for the contract closeout/termination phase was 3.20 on the Likert Scale (Table 3) indicating a general perception of slightly above “neutral.” However, the average overall score for knowledge questions on the contract closeout/termination phase was 72 percent (Figure 7).

In addition to the questions on agents’ perceptions of their knowledge on the contract management process, one of the perception questions asked if agents felt they had enough knowledge of procurement fraud schemes to investigate procurement fraud. The perception mean for this question was 4.09 on the Likert Scale (Table 3) indicating a general perception of slightly above “agree.” Based on this result, most agents perceived that they had enough knowledge of procurement fraud schemes to perform fraud investigative duties. The average overall score for procurement fraud schemes among all respondents was 75 percent, suggesting that agents do have enough knowledge to investigate procurement fraud. The perception mean for AFOSI providing adequate training to effectively investigate procurement fraud was 2.69 on the Likert Scale (Table 3) indicating a general perception of slightly below “neutral.” It is interesting that over 51 percent of the procurement fraud agents who responded to this research indicated “disagree” or “strongly disagree” when asked if they perceived that AFOSI provided adequate training on contracting to effectively investigate procurement fraud.

It is important to note that the research results do not indicate a failure in an agent’s ability to investigate procurement fraud, nor do they suggest poor job



performance. The findings of this research suggest that there may be areas in which AFOSI could improve their fraud-training curriculum.

C. AREAS FOR FURTHER RESEARCH

This research continues a stream of research on ensuring auditability in government contracting, specifically focusing on having competent people involved in all areas of the contract management process. While the assessment tool was designed to be comprehensive, 27 knowledge-based questions may not be sufficient to adequately assess an agent's knowledge of the contract management process, procurement fraud schemes, or an agent's ability to conduct procurement fraud investigations. Accordingly, one area for further research might include modifying and increasing the number of questions to assess a broader range of knowledge within the contract management process and procurement fraud schemes.

The final perception question on the assessment tool for this research found that the majority of agents felt that AFOSI did not provide adequate training on contracting. This perception is confirmed in the average overall low score on the knowledge-based questions of the assessment. If AFOSI provided additional training to procurement fraud agents, another area for further research might include identifying the number of advanced training courses available to AFOSI procurement fraud agents and reassessing their knowledge. This further research may identify how the agents taking the additional training affected agents' knowledge scores on the phases of the contract management process.

Furthermore, while this research primarily focused on AFOSI procurement fraud agents, this research can be applied to other government agencies charged with investigating procurement fraud. This assessment tool could be used to assess the Army Criminal Investigative Division (CID), Navy Criminal Investigative Services (NCIS), Defense Criminal Investigative Service (DCIS), and other DOD agencies' procurement fraud agents on their knowledge of the contract management process. In the DOD, many contingency fraud investigation units are comprised of agents from different services including the Federal Bureau of Investigation (FBI). This research can be used to



establish a baseline knowledge level for all procurement fraud investigative units to ensure agents from different services can operate and investigate procurement fraud efficiently.

The assessment tool consisted of only one question to determine whether procurement fraud agents felt that AFOSI provided adequate training on the contract management process. The perception mean for this question was 2.09 on the Likert Scale (Table 3), which indicated a perception of slightly below “neutral.” Another area for further research would be to expand on this area and assess not only procurement fraud agents’ needs, but also their desire for additional training on the contract management process. Further research may involve interviewing procurement fraud agents to determine how they have applied their knowledge of the contract management process to investigate procurement fraud allegations.

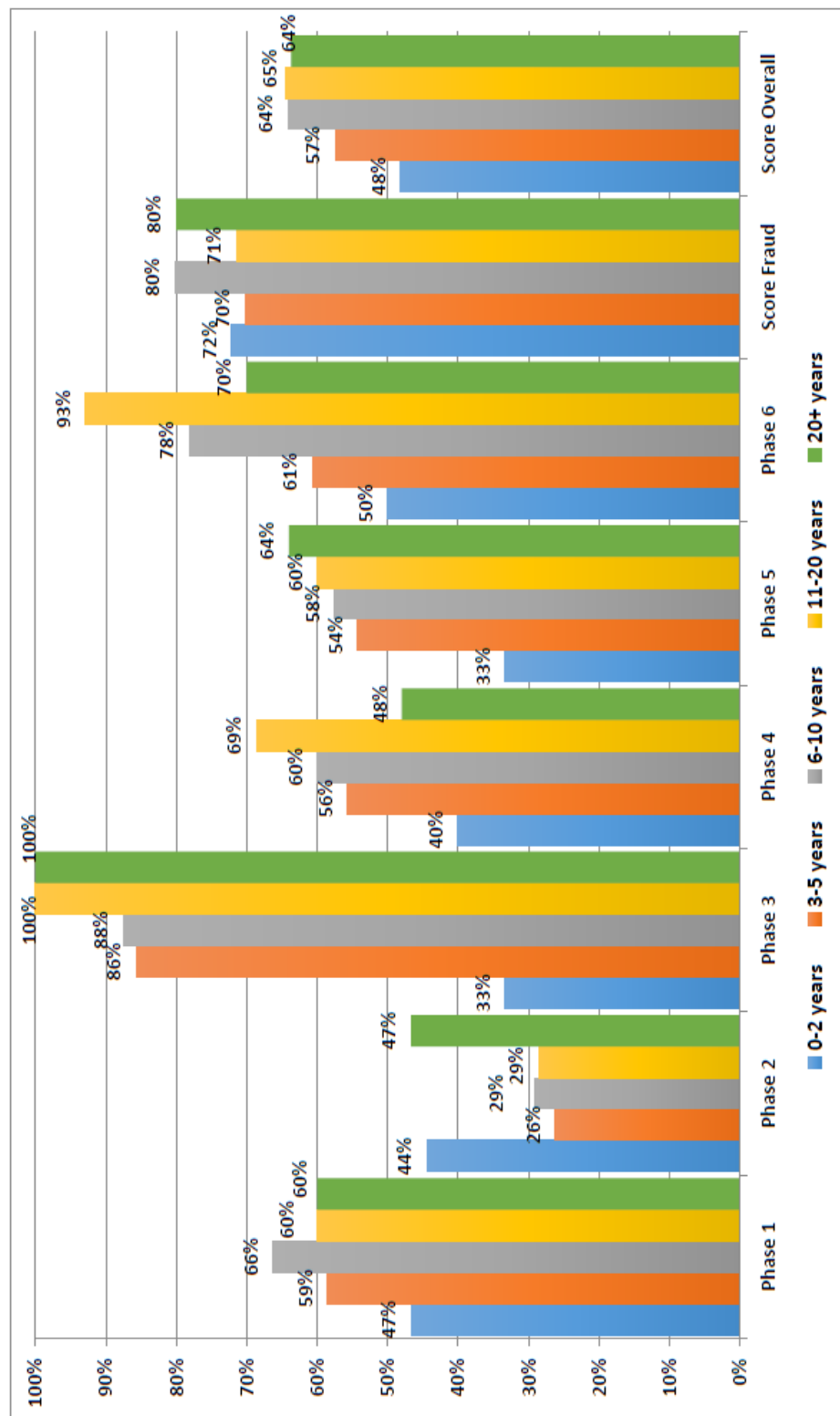
Finally, further research might include interviewing contracting officers and procurement fraud investigators to assess the working environment between the organizations during an investigation. This may lead to the identification of inefficiencies in the investigative process as well as how gaps in the knowledge of procurement fraud schemes and the contract management process may have affected procurement fraud investigations.



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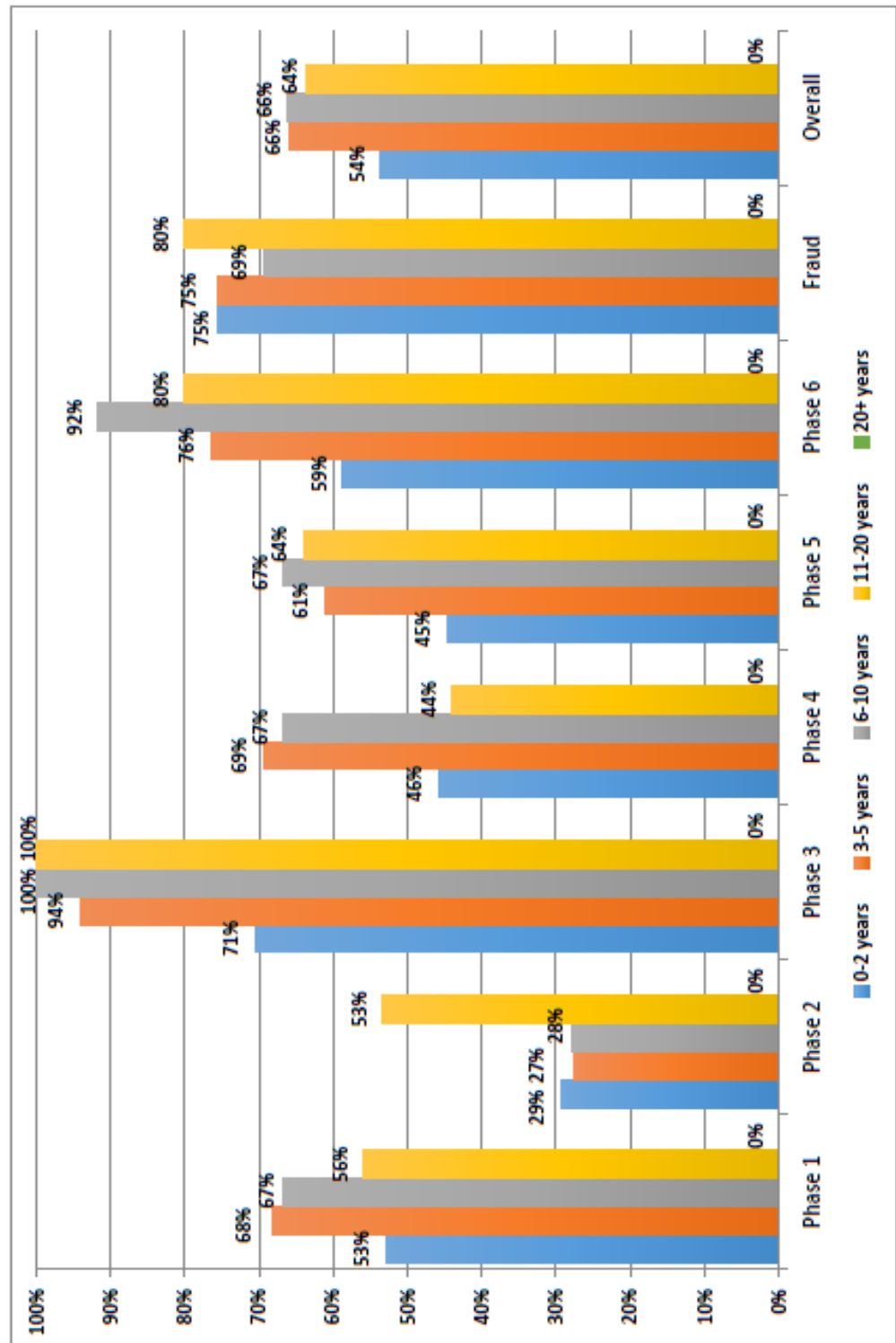
APPENDIX A. AVERAGE SCORES BY AFOSI EXPERIENCE



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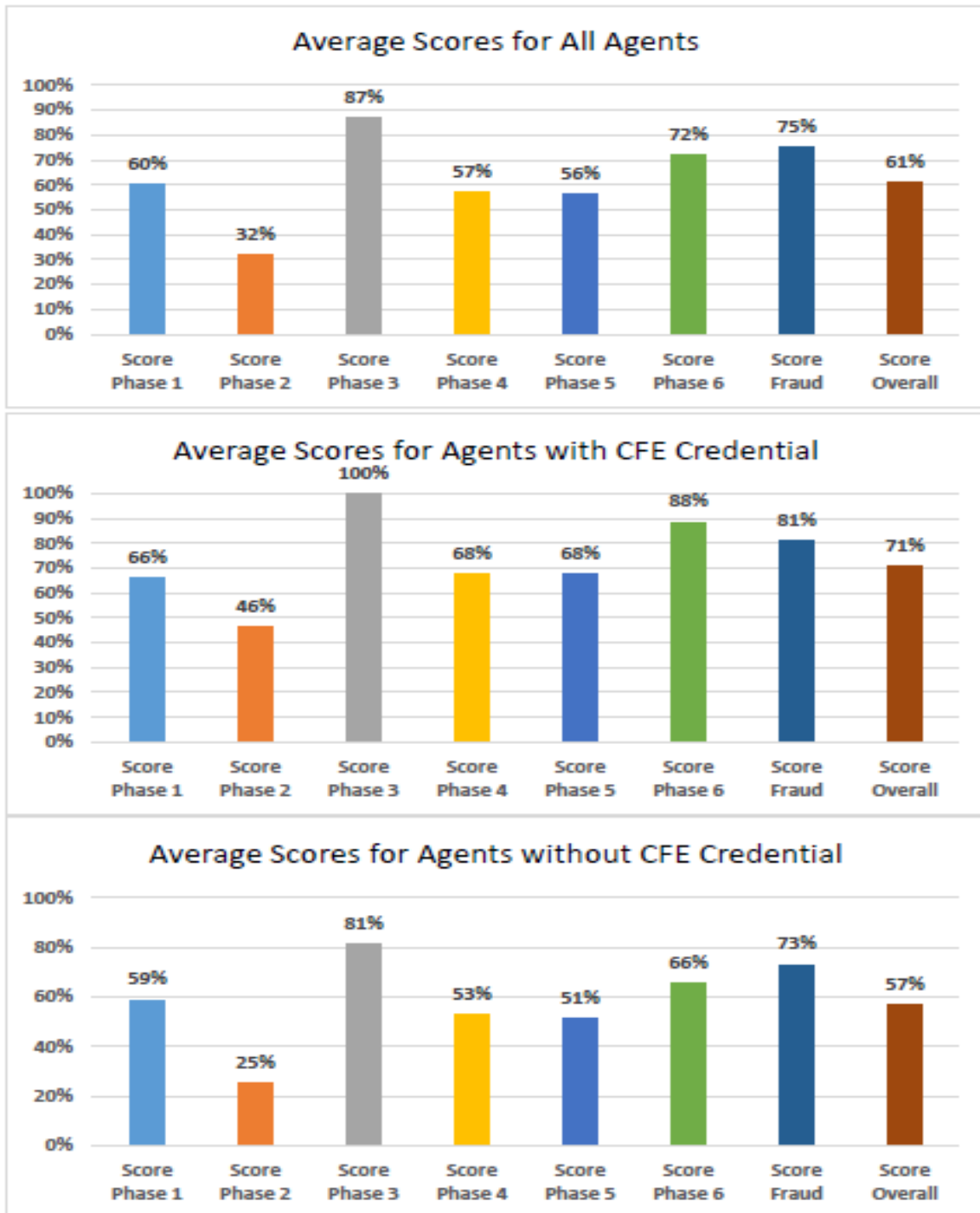
APPENDIX B. AVERAGE SCORES BY PROCUREMENT FRAUD EXPERIENCE



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APPENDIX C. AVERAGE SCORES OF AGENTS WITH AND WITHOUT CFE CREDENTIAL



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