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MBA PROFESSIONAL REPORT

ANALYSIS OF CONTRACTING PROCESSES, INTERNAL CONTROLS, AND PROCUREMENT FRAUD SCHEMES

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June 2013

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Contracting continues to play an important role in the Department of Defense (DoD) as a means to acquire a wide array of systems, supplies, and services. More than half of DoD's budget is spent through contracts. With these large dollars spent comes the possibility of fraud in contracting that can subvert the process causing waste and possibly impeding mission accomplishment.

The purpose of this research was to analyze DoD's contracting workforces' level of fraud knowledge, according to the six phases of contract management, five internal control components, and six procurement fraud scheme categories. This was done through the deployment of a survey consisting of fraud knowledge and organizational perception questions. The survey was completed by contracting personnel at the U.S. Army Mission and Installation Contracting Command. The results displayed differences in fraud awareness and perception among the different contracting phases, internal control components, and procurement fraud scheme categories. Recommendations for improving fraud awareness were also presented as well as areas for further research.

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ANALYSIS OF CONTRACTING PROCESSES, INTERNAL CONTROLS, AND PROCUREMENT FRAUD SCHEMES

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LIST OF ACRONYMS AND ABBREVIATIONS

ACC	Army Contracting Command
ACFE	Association of Certified Fraud Examiners
ATEC	Army Test & Evaluation Command
BPA	Blanket Purchase Agreement
CICA	Competition in Contracting Act
CONUS	Continental United States
COR	Contracting Officer Representative
COSO	Committee of Sponsoring Organizations
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DFARS	Defense Federal Acquisition Regulation Supplement
DoD	Department of Defense
DODIG	Department of Defense Inspector General
ECC	Expeditionary Contracting Command
EVM	Earned Value Management
FAR	Federal Acquisition Regulation
FARA	Federal Acquisition Reform Act
FASA	Federal Acquisition Streamlining Act
FDO	Field Directorate Office
FORSCOM	Forces Command
GAO	General Accountability Office
GAO	Government Accountability Office
GPE	Government Point of Entry

HRC	Human Resources Command
IDIQ	Indefinite Delivery Indefinite Quantity
LPTA	Lowest Price Technically Acceptable
MICC	Mission & Installation Contracting Command
OCS	Operational Contracting Support
OGE	Office of Government Ethics
PEO	Program Executive Office
RFP	Request for Proposal
SAA	Source Selection Authority
SAP	Simplified Acquisition Procedures
SOO	Statement of Objectives
SOW	Statement of Work
SSAC	Source Selection Advisory Council
SSEB	Source Selection Evaluation Board
TRADOC	Training & Doctrine Command
USAID	United States Agency for International Development
USARC	United States Army Reserve Command

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I. INTRODUCTION

A. BACKGROUND

The Department of Defense (DoD) has recognized the large role contracting plays in its daily operations in terms of the dollars spent and its operational impact. This is especially so with the recent operations in Iraq and Afghanistan. From 2001 to 2007, funds obligated by DoD for supply and service contracts doubled during those years (GAO, 2009). With this increased role of contracting, there is also a greater chance of dollars being wasted, not getting the best value, and not fulfilling requirements. Due to this, the Government Accountability Office (GAO) has kept DoD Contract Management on its High Risk Series list since 1992 (GAO, 2009). In addition, the GAO also listed lack of a capable acquisition workforce and sufficient contract surveillance among reasons for vulnerabilities that can lead to contracting fraud, waste, and abuse (GAO, 2006). In this environment of increased spending in contracting and the importance it plays in the DoD's mission, it is critical that the acquisition workforce have the requisite knowledge of contracting fraud to attain the best value for the government.

B. PURPOSE OF RESEARCH

The purpose of this research is to determine the acquisition workforces' level of procurement fraud knowledge, and analyze any potential areas vulnerable to fraud, waste, and abuse within the contracting process with regard to the phases of contract management, internal control components, and procurement fraud schemes. Results from the analysis can be utilized to make recommendations for improvement through refocusing training, following proper procedures and internal controls, or suggesting additional resources. The research will also measure the acquisition workforces' perceptions of procurement fraud within their organization. Another purpose of the research is to develop and test an assessment tool to determine the knowledge level of the acquisition workforce, regarding procurement fraud schemes.

C. RESEARCH QUESTIONS

The research questions for this research include the following:

1. What is the contracting workforces' knowledge level of procurement fraud schemes as related to the contract management process, internal control components, and procurement fraud scheme categories?

2. What is the contracting workforces' perception of procurement fraud as related to the contract management process, internal control components, and procurement fraud scheme categories?

D. BENEFITS AND LIMITATIONS

The research will assess the procurement fraud knowledge level within the U.S Army's Mission and Installation Contracting Command (MICC) and will highlight any areas within the contracting phases, internal control components, or procurement fraud schemes that are perceived by the contracting workforce to be more susceptible to fraud. The results of the analysis will be used to make recommendations that can be used to strengthen procurement fraud awareness within the MICC and DoD contracting workforce as a whole. Another benefit of the research is the development of an assessment tool to test the level of knowledge among contracting personnel regarding procurement fraud schemes. This new research tool will be used in this research and could be refined for future research on different government contracting personnel.

The limitations of the research include the validity of the new assessment tool, the possible limited numbers of participants who take the test, and deployment method of the test. This research used a new survey developed by the researchers; therefore, the breakdown of the questions among the different contracting phases, internal control components, and procurement frauds schemes might have some overlap, and the division among various categories might not be clear. Also, the questions might have varying levels of difficultly which can lead to one area being more difficult to answer correctly than another. The MICC granted access to all their contracting personnel, but the actual number of participants was significantly lower. Lastly, the participants of the survey took

the online survey at their workstations and on their own schedule where they could not be monitored by the researchers so there is a possibility that outside assistance could be used to complete the survey.

E. METHODOLOGY

The research consists of a thorough review of the recent literature, development and deployment of the assessment tool, and the analysis of the results. The literature review consisted of the government reports detailing the current state of contracting within DoD, common indicators of fraud, and the components of internal control. Non-governmental literature was also reviewed, especially in the areas concerning the general characteristics of procurement fraud schemes. From the literature reviewed, an assessment tool was developed consisting of questions on procurement fraud knowledge, organizational perceptions, and demographic information. The assessment was then deployed to all U.S. Army MICC offices where contracting personnel were located using the web-based survey software, LimeSurvey. The survey was available for completion for a period of three weeks to complete, after which the results were analyzed for any significant differences among phases of contracting, internal control components, and procurement fraud schemes. Finally, the assessment tool was also reviewed and recommendations were made for further research.

F. ORGANIZATION OF REPORT

The report consists of six chapters including this introduction. Chapter II will consist of a literature review that will provide information on the phases of contract management, internal control components, and procurement fraud schemes. Chapter III will provide information on the MICC. Chapter IV will review the methodology used in the research in developing and deploying the survey. Chapter V will detail the findings and analysis of the results of the survey and provide recommendations for improvement. Chapter VI will consist of a summary, conclusion, and areas for further research.

G. SUMMARY

In this chapter an introduction and overview of the research was provided. The significance and risks of DoD contracting were reviewed, which emphasize the need for a well-trained and knowledgeable contracting workforce. The purpose of the research was then presented, which is to assess the knowledge level and perception of procurement fraud among government contracting personnel. Then, the two research questions were presented along with the benefits and limitations of the research. Lastly, the methodology of the research was summarized. The following chapter builds the foundation of this research by reviewing the literature on the contract management process, internal controls, and procurement fraud schemes.

II. LITERATURE REVIEW

A. INTRODUCTION

In this chapter, a literature review is presented covering the basic foundational knowledge to include the six phases of the contract management process, the five components of internal control, and six common procurement fraud schemes. A general summary of the current Department of Defense (DoD) contracting issues, initiatives, and impacts are also presented. This review serves as a basis to better understand the composition of the survey questions and analysis of the results.

B. SIX PHASES OF CONTRACT MANAGEMENT PROCESS

The contract management process from the perspective of the government is divided into six commonly recognized phases consisting of procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout (Rendon & Snider, 2008). Each of these phases have distinct required actions and outcomes. They are also all necessary for a successful contract, but their duration can vary depending on the contract. The following section discusses each of the phases and associated activities.

1. Procurement Planning

The contracting process begins with the procurement planning phase, which is the process of determining what the agency needs, assessing what is available to procure, and documenting the requirement. This phase is mostly internal to the agency and requires the end users within the organization to clearly identify the supplies or services that they are trying to procure. The procurement planning phase consists of defining the requirement, conducting market research, and starting the requirements' documentation process.

a. Defining the Requirement

The procurement planning phase begins with the organization defining the requirement. What exactly is the supply or service that the government is looking to purchase? Some questions for the buyer to answer include the following:

- Does the organization want to buy or lease a product?
- Does the organization want to completely outsource the need or perform it jointly with a contractor?
- When or for how long is a supply or service requirement needed?
- Has the organization purchased something similar before?

The answers to these questions are necessary in order to narrow the contracting possibilities and move the procurement along the phases of contract management. Requirements should also be agreed upon by the organization's key personnel involved in the contract: the requirement originator, the end user, the organization's leadership and the contracting officer (Federal Acquisition Regulation (FAR), 48 C.F.R. ch 1, 2013).

b. Conducting Market Research

Once a requirement is identified, the next step in the process is market research. Market research consists of determining the capabilities that are available from private or government sources to fill the requirement. It is an essential step in the contract management process as the data collected serve as a basis for later contracting phases. Market research is a requirement for any acquisition above the simplified acquisition threshold of $150,000 or for acquisitions below the threshold when there is a lack of adequate information (FAR, 2013, § 10.001). Market research is used to determine whether the market can meet the requirement and to determine the likely suppliers of the product or service. General estimates of cost are established as well as standard processes among suppliers for the required supply or service. Market research also determines whether commercial items will be able to fill the agency's need, which will affect subsequent steps in the contracting process. The sources of market research data include public information on the industry, feedback from companies, previous experience with similar requirements, and data from other agencies.

c. Requirements Documents

Once the requirements are clarified and market research is nearing completion, the documents for the solicitation can begin to be developed. These

documents include an Invitation for Bid (IFB) and a Request for Proposals (RFP). A statement of work (SOW) or a statement of objective (SOO) is developed to clearly outline the roles and responsibilities of the contractor and the agency. Rumbaugh (2010) described the SOW as "the single most critical document in the acquisition process" (p. 155). Because of this, the SOW or SOO should be as clear as possible to help prevent problems or misunderstandings later on in the contracting process.

2. Solicitation Planning

Solicitation planning takes the information gathered from procurement planning and uses it to formulate how the agency will obtain the required supplies or services. Solicitation planning includes the agency determining the procurement method, the contract type, and the evaluation criteria to be used in selecting the awardee(s).

a. Determining Procurement Method

The procurement methods available to an agency vary widely and depend on the product, cost estimate, and availability of sources. The cost determines whether it is a micro-purchase (less than $3,000), simplified acquisition procedures (SAP) procurement ($3,000 to $150,000), sealed bid, or negotiated procurement (Rumbaugh, 2010). For requirements with value over SAP, FAR part 15.101 (2013), allows the agency to choose one or a combination of sealed bid and negotiated procurement methods to obtain the best value. The choice depends on the complexity, risk, and importance of price. Lowest Priced Technically Acceptable (LPTA) is generally used when products or services are easily definable and price is the determining factor. Tradeoffs are conducted when price is not the dominant factor and the requirement is more complex with more factors to negotiate with the offerors (Rendon, 2013).

The agency must also choose how it is going to compete the requirement. The Competition in Contracting Act of 1984 (CICA) was enacted to promote competition in the awarding of government contracts. CICA states that "contracting officers shall promote and provide for full and open competition in soliciting offers and awarding Government contracts" (FAR, 2013, § 6.101). Subsequent legislation, such as the Federal Acquisition Streamlining Act of 1994 (FASA) and the Federal Acquisition Reform Act of

1996 (FARA), have allowed greater flexibility in requiring competition, but CICA remains the basis for competition requirements (Manuel, 2011). Other than full and open competition, designating one provider (sole sourcing) is allowed for a variety of reasons. The most common reason is when only one responsible source is able to fill the requirement.

b. Contract Type and Structure

Selecting the right type of contract for the requirement is an important step in the contract management process. It can be a key determinant in the success of the entire contract. FAR part 16.101 (2013), categorizes contracts into two broad categories: fixed-price and cost-reimbursement. Fixed-price contracts are those that have a set price that the government pays regardless of the cost of the performance to the contractor. In cost-reimbursement contracts, the government pays the contractor for all the allowable costs up to an established ceiling. Incentive types of contracts may also provide additional fees to contractors for improved performance or delivery. These incentives can be added to fixed-price or cost-reimbursement type contracts. Furthermore, indefinite delivery type arrangements such as indefinite delivery indefinite quantity (IDIQ) contracts and blanket purchase agreements (BPA) can provide the government with flexibility regarding when and how much it can order. IDIQs and BPAs are for expected recurring requirements that do not have a precise order quantity or date.

The type of contract selected carries varying degrees of risk for the contractor and the government. Fixed-price contracts are the least risky for the government, while cost-reimbursement contracts results in more risk to the contractor. The RFP normally suggests a specific type of contract, but the selection "is generally a matter for negotiation and requires the exercise of sound judgment" (FAR, 2013, § 16.103(a)). This flexibility allows for suggestions from a contractor in the selection of a more appropriate type of contract to the agency if there is a valid reason in terms of risk, cost, or performance.

c. Establishing Evaluation Criteria

The evaluation criteria set for a solicitation serves two main purposes: one is to relay to the potential offerors the factors that the agency deems as important, and the other is to serve as grading criteria during the selection process. FAR part 15.304 (2013) establishes two general categories that must be reviewed in negotiated contracts: price or cost and the quality of the product, the first is "evaluated" while the later shall be "addressed" (para. (c)). The level of analysis for price or cost varies depending on the size and complexity of the contract, but in all source selections, the contracting officer must determine "whether the proposed cost or price is fair and reasonable" (Under Secretary of Defense (AT&L), 2011, p. 14). Negotiated procurement evaluation strategy may be based on the LPTA or a tradeoff process. In an LPTA, the awardee is the offeror with the lowest price that meets all the technical requirements, while a tradeoff is one in which price, technical factors, past performance, and other factors are used to find the best value for the government.

Technical factors measure whether the contractor's proposal will be able to fulfill the requirement. When technical factors are used, a technical risk evaluation must also be conducted, either combined with the technical score or separately. An evaluation of the offeror's past performance is mandatory for contracts priced above thresholds, as outlined in the Defense Federal Acquisition Regulation Supplement (DFARS, 2013) subpart 215.304. Socio-economic concerns are generally evaluated for contracts above $650,000 for non-construction acquisitions. Lastly, the solicitation must state, according to FAR part 15.101–1(a)(2)(2013), whether all the non-price factors combined are significantly more important, equally important, or significantly less important than price.

3. Solicitation

During this phase of the contract management process, the agency begins its formal interaction with industry. Agency can choose to hold a pre-proposal conference or release a draft RFP to gain additional information prior to releasing the solicitation. The solicitation phase consists of pre-proposal conference and advertising the requirement.

a. Pre-proposal Conference

The pre-proposal conference (also known as the pre-bid conference or industry day) is an important step in the solicitation process. It serves as an avenue for communication between contractors and the agency to better understand each other's needs and capabilities. It is not a requirement for all solicitations but is highly recommended, especially for more complex contracts that contain detailed technical information, items or locations that warrant inspections, or when there is potential for ambiguity (Rumbaugh, 2010). The pre-proposal conference is usually held after a draft RFP has been released so any questions from the draft can be dealt with at the conference or any changes from the conference can be made before the final RFP.

b. Advertising Requirements

All federal contract actions that are greater than $25,000, with certain exceptions listed in FAR part 5.202 (2013) must be advertised on the government point of entry (GPE), which is located on the Internet at http://www.fedbizopps.gov. The publicizing of procurement opportunities increases competition and widens industry's participation including various disadvantaged businesses. Contracts ranging from $15,000 to $25,000 can be advertised through other methods such as posting notices, distributing handouts, making announcements in journals, and, if necessary for effective competition, using paid advertising (FAR, 2013, § 5.101). The process of publicizing on the GPE involves announcing that a solicitation is forthcoming, which must be at least fifteen days before the solicitation is posted (publication date). Agencies must allow at least 30 days from the publication date for responses to be returned from offerors for requirements over the simplified acquisition threshold.

4. Source Selection

The source selection phase consists of evaluating proposals and selecting the awardee(s). At the same time, information is being exchanged with the offerors to improve their proposals which will in turn help the government obtain the best value. Source selections are conducted by the source selection organization, which will now be discussed.

a. Source Selection Organization

The source selection organization is comprised of the Source Selection Authority (SSA), Source Selection Evaluation Board (SSEB), Source Selection Advisory Council (SSAC), and other advisors (Under Secretary of Defense (AT&L), 2011). Each source selection organization varies depending on the size and complexity of the requirement. The contracting officer is normally the SSA for the majority of contracts and can be the SSA for those up to $100 million. For contracts more than that amount, another authoritative person must be appointed by the agency (AT&L, 2011). The SSA is the person responsible for the overall source selection process. The SSA also ensures that it adheres to all evaluation regulations and is charged with making the final decision of the award. The SSEB is made up of various individuals or teams who evaluate proposals for each of their respective evaluation factors. The SSAC's function is to review the findings of the SSEB and provide recommendations to the SSA. When an SSAC is not required, other government advisors can be used in place of an SSAC. Non-governmental advisors are allowed, but they cannot determine rankings of the offerors nor have access to offerors' past performance records. The source selection organization is responsible for evaluating proposals, which is discussed next.

b. Evaluating Proposals

The evaluation of the proposals involves scoring each proposal against the evaluation factors and sub-factors listed in the RFP. The SSEB uses various scoring methods, such as adjectival, color, or numerical ratings, to judge how well each proposal matches the criteria of the solicitation (Rumbaugh, 2010). Price is not assigned a score, but all others, such as technical, past performance, and socio-economic factors are given a score. Risk within each technical factor must also be judged, either separately or combined with the technical factor. The SSEB can perform a comparative analysis of the proposals for the SSA, but only when requested (Under Secretary of Defense (AT&L), 2011). Once the SSEB evaluations are complete, the results are sent to the SSAC (if formed) or to the SSA for a decision on who the awardee will be. The SSA is the ultimate

authority and can follow the ratings or recommendations of the SSEB or come up with findings of their own as long as those findings are justified and documented.

c. Clarifications, Communications, Discussions, and Revisions

Throughout the proposal evaluation process, the government is allowed varying degrees of contact with the offerors depending on the goal of the exchange. Clarifications are the least invasive level of contact; this is where the agency is expecting to award the contract without discussions and is only trying to obtain information to clarify past performance issues or administrative errors. Another level of contact is communications, where the agency is still expecting to award without discussions but is trying to determine whether an offeror should be included in the competitive range. Only limited information dealing with similar items to clarifications can be discussed. The most involved exchanges are discussion/negotiations in which the agency provides information on areas of significant weaknesses and deficiencies to offerors, so they can improve their proposals. In discussions, proposals can be revised and tradeoffs between evaluation factors and price are allowed. Another difference between discussions and clarifications or communications is that if an agency holds discussions with one offeror, it must hold them with all offerors in the competitive range (Rumbaugh, 2010).

5. Contract Administration

The contract administration phase begins after selecting the source and the awarding of the contract. It encompasses monitoring the contractor's performance, making any needed modifications to the contract, and paying the contractor after verifying the receipt of the goods or services. The contract administration phase includes the following activities:

a. Monitoring and Measuring Performance

Monitoring and measuring contractor performance is important as it is the verification by the government that the contracting is performing in accordance with the contract. This can be accomplished in a variety of ways. Depending on the contract, the monitoring and measuring of contractor performance could be as simple as receiving and

inspecting an item to assigning government administrative contracting officers and contracting officer representatives (COR) to the contractor's facilities overseeing performance. Performance, in terms of a contract, is a measure on whether the contract is on schedule, within budget, or of the expected quality. One quantitative method of measuring performance is using earned value management (EVM). EVM is the practice of measuring actual performance through the duration of the contract against a cost and/or schedule baseline established at the start of the contract (Rendon & Snider, 2008). EVM helps the contractor and agency to identify problem areas and estimate the contract completion date and cost.

b. Contract Modifications

Changes may be made after the contract has been signed by the agency and contractor. There are two types of changes recognized by the FAR in part 43.103 (2013): bilateral and unilateral. In a bilateral change the contracting officer and the contractor both agree to the change and any monetary adjustments. In a unilateral change, the contracting officer makes the changes without the consent of the contractor and, if warranted, later provides the contractor with an equitable adjustment to the price of the contract. This is allowed due to the standard FAR change clauses that are normally included in contracts which give the contracting officer unilateral rights to make changes as long as it is within the scope of the initial contract. The scope of a contract can be defined as anything that falls within the original intent of the contract when it was first agreed to, or something that could have been expected within the type of work of the contract (Rendon, 2013).

c. Payment and Invoices

Payments to contractors are made over the life of the contract as the work is completed and invoices are submitted. Payments can be as simple as a single payment at the end of the period of performance for fixed-priced contracts, or they can be recurring invoices for payments for contractor costs on cost-reimbursement contracts (Rendon & Snider, 2008). In the case of the latter, the contracting officer would verify that the cost reported is allowable, according to the terms of the contract, and for work

that has actually been completed. Partial payments for fixed-priced contracts are also allowed in the form of progress payments, which can provide the contractor up to 80% of the costs incurred under the contract (FAR, 2013, § 32.501–1) throughout the performance of the contract according to a pre-negotiated schedule.

6. Contract Closeout

Contract closeout is the final phase of the contract management process. It occurs when the government opts to allow the contract to progress through completion. Contracts may also be terminated before completion, either as planned through contract closeout or sooner through terminations.

a. Terminations

Contracts that are ended before their scheduled completion date are terminated either for the convenience of the government or through default of the contractor. A termination for convenience is when the government decides to end the contract for reasons that are not due to the contractors' actions. These reasons can include a change in the agency's needs, budgets, or technologies. The right to terminate for convenience exists for all contracts with the government. During a termination for convenience, the contractor is compensated for all the work completed, deliveries made, and costs incurred up to the point of termination. It also does not reflect negatively on their past performance evaluations for any future contracts. On the other hand, a termination for default is one that is based on the contractor's failure to make deliveries or perform services or to perform any provision of the contract, or is based on the contractor's shortcomings endangering the performance of the contract (FAR, 2013, § 49.402–1). A termination for default does reflect negatively on future past performance evaluations, and the contractor is not entitled to compensation for work in progress or work not accepted by the government.

b. Closeout

The closeout of a contract occurs when the agency determines that all supplies and services have been received, all payments are completed, all government

property has been returned, and any ongoing issues such as litigation have been resolved. Once these are verified, the contracting officer can begin the closeout process and handle, store, and retain the files according to FAR part 4.805 (2013). The FAR lists the various timeframes for the retention of the contract files, which vary from one year to six years depending on the size and subject of the contract.

Contracts are only successful as the processes used to develop and manage those contracts. Effective contracting processes are based on strong internal controls within the organization. The next section will provide an overview of these internal controls.

C. INTERNAL CONTROL COMPONENTS

Internal control components in the government are standards that are in place to improve accountability, better prepare an organization for changing environments, and address areas of greatest risk for mismanagement. The current government internal control components as published by the General Accounting Office (GAO, 1999), are adopted from the Committee of Sponsoring Organizations of the Treadway Commission (COSO) (1992). There are 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." (GAO, 1999, p. 4). Each of the five internal control components are discussed below.

1. Control Environment

The environment of an organization can be considered the foundation for the success of all the internal control components as well as the success of the entire organization. The key factors within the control environment component are values and ethical behavior, competence, and organizational structure (GAO, 1999). The behavior and display of integrity and ethical behavior by management plays a key role in the tone for the rest of the organization. Management can clearly communicate the positive values for the organization and at the same time respond quickly to any inappropriate action (COSO, 1992). This sets the boundaries for what is considered proper ethical behavior

for the whole of the organization. The organization must also pursue competence for all its personnel. This means ensuring that the people are qualified for their positions and, if not, are provided the proper training. Lastly, the organization needs a formal structure that is appropriately centralized (or not), with formal job descriptions, lines of authority, and reporting relationships (GAO, 2001).

2. Risk Assessment

Risk assessment is the identification, analysis, and management of risk faced by an organization. It entails identifying risks that could possibly prevent the organization from achieving their objectives. The identification of risk covers all significant interactions between the organization and outside parties such as industry, offerors, and contractors. Other factors are also considered such as past failures to achieve objectives, significance of the mission, and the complexity of activities (GAO, 2001). The analysis of risk involves estimating the significance of the risk, the possibility of it occurring, and the frequency of such occurrences. The management of the risk is determining what specific actions should be taken to mitigate the risk. Another determination for management is to define the levels of risk that are tolerable and that are too high for the organization.

3. Control Activities

The control activities component includes the policies and procedures put into place by management to ensure the organization accomplishes its objectives. These policies and procedures are also designed to mitigate any risks identified during risk assessment. Control activities are at all levels of an organization and encompass such activities as "approvals, authorizations, verifications, reconciliations, performance reviews, security activities, and the production of records and documentation" (GAO, 2001, p. 33). These activities must not only be in place but must also be understood by personnel, actually used, and periodically evaluated. Control activities also include broader categories of review such as management performance reviews, the review of personnel skill mix, and the proper segregation of duties. The proper segregation of duties ensures a system of checks and balances are in place to help prevent procurement

fraud. There may be a wide variety of activities implemented from different organizations due to differing objectives, environment, and complexity; therefore, the flexibility of control activities within an organization is a key attribute (COSO, 1992).

4. Information and Communication

Information and communication cover the flow, form, and content of information that is passed among the internal and external parties of an organization. This information needs to be sent "to the right people in sufficient detail, in the right form, and at the appropriate time to enable them to carry out their duties and responsibilities efficiently and effectively" (GAO., 2001, p. 51). Two main types of information include *operational*, which is needed to determine whether legal requirements for the organization are being followed, and *financial*, which is used as a basis to make decisions and to monitor performance. A review of an organization's information and communication should reveal whether personnel have communication channels outside of their immediate supervisor, whether reporting adverse information or improper conduct brings reprisals, and whether entities are informed of the organization's ethical standards. As with all other internal control components, this is to ensure that the organization accomplishes its objectives.

5. Monitoring

The internal control component of monitoring is the process of assessing the performance of the organization over a period of time. Monitoring can be divided into three main elements: ongoing monitoring, separate evaluations, and resolution procedures (GAO, 1999). Ongoing monitoring is monitoring that occurs during the performance of the regular activities of management. It covers such things as periodic evaluations, operating reports, and inventory reconciliations. Separate evaluations are a review of the effectiveness of an internal control at a specific time. It can be performed by an internal entity or an external auditor. The frequency and scope of the evaluation is determined by the results of the risk assessment or whether major changes in the organization's plans, size, or budgets have taken place (GAO, 2001). The final piece of monitoring, resolution, is ensuring that the organization has policies and procedures in place to resolve the

findings from ongoing monitoring and separate evaluations. This involves promptly reviewing results, determining the proper response to the results, and taking action to correct any issues.

The previous section discussed the five internal control components. These internal controls are important to the success of the contracting process. The absences of effective internal controls increase an organization's vulnerability for procurement fraud discussed in the following section. The next section discusses procurement fraud schemes.

D. PROCUREMENT FRAUD SCHEME CATEGORIES

The categories of fraud that commonly exist in government contracting can be divided into six categories. These can further be divided into more specific procurement schemes. As Vona (2011) stated, "fraud is predictable with regard to the schemes that occur" (p. 29). He further stated that "each core business system in an organization has inherent fraud schemes associated with them" (p. 30). The following are the six broad categories of government procurement fraud: collusion, conflict of interest, bid rigging, billing/cost/pricing schemes, fraudulent purchases, and fraudulent representation.

1. Collusion

The fraud category of collusion encompasses schemes that involve both the government and industry in working together to circumvent the standard procedure in the contracting process. The specific schemes include bribery, kickbacks, and split purchases. Bribery is commonly defined "as the offering, giving, receiving, or soliciting anything of value to influence an official act" (Wells, 2008, p. 183). The inclusion of "official act" is especially relevant to government procurement as its purpose is to influence the decision of government officials, while commercial bribery is meant to influence business decisions within private industry (Wells, 2008). In bribery, the collusion is between the offeror of the valued item and the person offering something in return, which could include consideration for a contract, access to privileged information, or an increase in orders from a contractor. Another form of collusion is kickbacks, which entails a government official providing some sort of favor to a contractor, such as increasing business, submitting false invoices, or receiving a contract, in return for some part of the

value generated by that transaction. Bribery is characterized by influencing an individual's judgment, while a kickback is characterized by influencing the administration of a process (Vona, 2011). Split purchases in terms of collusion involve multiple parties conspiring to circumvent government procurement thresholds which could trigger additional demands for competition, oversight, or justification.

2. Conflict of Interest

Conflicts of interest occur when a government official's loyalty is not clearly aligned with the government's best interests. This is the distinguishing feature of conflicts of interest, in that the fraud is not simply to gain material benefits but to promote the interests of another entity besides the government. This type of fraud can arise when an official has undisclosed legal or other beneficial interests in a related organization such as with an offeror (Vona, 2011). Government regulations prohibit those conflicts of interest when they involves the government official's spouse, minor child, general partner, an organization in which he or she is in a senior position, or a future employer (U.S. Office of Government Ethics (OGE), 2007). Conflict of interest for a government official also includes the ownership of stock, receiving compensation or working part-time in a related entity. In government contracting, the most common conflict of interest schemes are associated with the source selection phase. The decision not to compete a solicitation and attempt to justify a sole source are examples. Another example is the favored vendor, in which the rules, requirements, or decisions are biased toward the selection of the source in which there is an undisclosed interest.

3. Bid Rigging

Bid rigging is the circumvention of the standard bidding process of correctly laying out the government requirement and collecting accurate bids from offerors. Bid rigging has been described as the weakest point in the procurement process because the government end users, procuring officials, and offerors can all corrupt the process (Vona, 2011). The end user can falsely create needs for an agency, such as requesting an excessively high number of parts. He or she can rig the specifications required for a contract by writing the contract so that only a specific vendor can provide the goods or

services, can keep the specifications vague to increase the likelihood of price increases after the award, or can split requests to fit under a government competition threshold (Wells, 2008). Procuring officials can corrupt the bidding process by artificially limiting the number of offerors, leaking bid information to favored offerors, or being biased in their proposal evaluation and source selections. A government official can also leak specifications to favored companies before the official release to give them an advantage in preparing their proposals (Wells, 2008). Additionally, bid rigging from the offerors can involve working with other offerors to rotate submitting the lowest/winning bid, creating fictitious bidders to falsify price competition, or proposing significantly higher prices on some items and lower prices on others through unbalanced bidding (Federal Acquisition Regulation (FAR), 48 C.F.R. ch 1, 2013).

4. Billing/Cost/Pricing/Schemes

Schemes involving billing, cost, and pricing comprise a wide variety of procurement frauds, but the common link through all of them is a misrepresentation of finances. Cost mischarging is charging for costs on a contract that are not allowable under that contract (Vona, 2011). Labor costs are more susceptible to mischarging because they can be easily charged to any contract, and labor rates also impact overhead rates, which are usually more than the labor costs themselves; thereby, doubling the loss to the government (U.S. Agency for International Development (USAID), n.d.). Defective pricing is the submission of cost or pricing data that is not accurate, complete, or current. This can involve the non-disclosure of information that will affect the price, falsification of supporting data, or failure to update data. Change order abuse is the act of placing erroneously high charges as a part of change orders on a contract. This occurs when an offeror submits a low bid with the assurance from a government employee that numerous or high dollar value change orders will take place after the award (Silverstone, 2005). Co-mingling of contracts is committed by a contractor when the contractor bills the government for the same work done once on multiple contracts, thus being a form of duplicate billing. Another type of duplicate billing can be found in invoices for payment that contractors submit to the government. Fraud can occur through invoices being false,

inflated, or duplicate and can involve just the contractor, collusion between the contractor and a government employee, or just a government employee (USAID, n.d.).

5. Fraudulent Purchases

Fraudulent purchases involve the procurement of material that is beyond the requirements for the government. This can involve an agency employee, acting alone, buying material for personal use and disguising it as legitimate, or an employee buying things that are normally bought in his or her position but then selling it for personal gain (Vona, 2011). Another form of fraud, unnecessary purchases, occurs when an agency employee and a seller collude to make excessively high numbers of purchases above what is stated in the requirements.

6. Fraudulent Representation

This category of fraud covers the misrepresentation of goods and services, provided by a contractor, which do not meet the quality specified in the contract. The failure to meet contract specifications occurs when a contractor gains financially from providing goods or services that do not meet the standards of what is required in the contract. Examples include "a contractor uses one coat of paint instead of two; uses watered loads of concrete; installs inferior memory chips in computers; or uses inferior automobile replacement parts" (USAID, n.d., p. 12). Product substitution is similar to failing to meet specifications in that a contractor states that a product meets the requirements in the contract when he or she knows it does not because it was replaced with a cheaper or inferior product. Product substitution includes providing non-tested materials when testing is required, using foreign-made instead of domestic-made goods, or using used parts instead of new parts. Both of these types of false representation frauds can be carried out by a contractor working alone or with help from a government employee.

In the next section, the DoD environment in which procurement fraud can occur will be discussed as well as DoD's response.

E. DEPARTMENT OF DEFENSE CONTRACTING

DoD contracting is a major part of the spending in the DoD and in the federal government as a whole. Since DoD contracting makes up about 70% of all federal government contracts, the proper manning, awarding, and administration of contracts in the DoD is crucial so that the government gets what it pays for (GAO, 2011a). Considering its large impact on the DoD, contracting is considered a high-risk area with complex issues of proper oversight and surveillance, sufficiency of requirements, and material internal control weaknesses (DoD, 2009). The discovery of such issues has led to the DoD implementation of initiatives to mitigate the risks involved in potentially not attaining the best value, staying within the law, and avoiding procurement fraud.

1. Impact

Contracting in the DoD is significant because of the dollars spent, the number of transactions carried out, and the goods and services derived from it. In fiscal year (FY) 2012, the DoD spent $360.8 billion in 1,447,289 transactions (Office of Management and Budget (OMB), 2012). This is more than half of the $670.9 billion in total budget authority for the DoD in that year (including funds from overseas contingency operations appropriations) (Under Secretary of Defense (C/CFO), 2011). All of these transactions encompass a wide variety of goods and services, ranging from base support services contracts and the acquisition of major weapons systems to contingency support in overseas operations. The increased role of contractors, in scope and numbers, has made them essential to the operation of the department.

2. Problems

DoD contracting has seen challenges in recent years from the inadequate numbers and qualification of the acquisition workforce, high profile fraud cases, and a multitude of problems from its contracting in contingency operations. These issues have led to the GAO keeping DoD contract management on its *High-Risk Series* since 1992 (GAO, 2011b). Specific points of concern include the increased workload from $138 billion in contracts in 2001 to $384 billion in contracts in 2009, with a 2.6% decrease in the acquisition workforce (Defense Acquisition University (DAU), 2013). High profile fraud

cases include Darleen Druyun, who as Principal Deputy Assistant Secretary of the Air Force For Acquisition and Management from 1993 to 2002, used her position to gain employment for herself and her family in return for favorable treatment for a contractor, and U.S. Army Colonel Richard Moran, who as commander of U.S. Army Contracting Command-Korea, took thousands of dollars in bribes from contractors for favorable treatment in contract awards (Gayton, 2004). Lastly, the DoD, with the increased reliance on contractors during the operations in Iraq and Afghanistan, has had numerous issues with contingency contracting. The DoD Inspector General found cases in which DoD officials were not adhering to policies in awarding, administering, and managing contingency contracts (Department of Defense Inspector General (DoDIG), 2012, p. i).

F. DOD RESPONSE

The DoD has responded to the aforementioned issues through a diverse set of actions including making improvements in personnel, emphasizing new policy initiatives, and instituting a cultural change in planning. To address the deficiencies in the acquisition workforce, the DoD undertook a dual approach of increasing the number of personnel and also improving the quality of personnel. In 2009, the President of the United States communicated "his intent that the federal acquisition workforce have the capacity and ability to develop, manage, and oversee acquisitions appropriately" (Defense Acquisition University (DAU), 2013, p. 1). Out of all acquisition personnel, contracting personnel will see the greatest increase in numbers, which is forecasted to make up 26% of the increase, bringing the overall growth in contracting to 23% from FY2009 to FY2015 (Defense Acquisition University (DAU), 2013). In response to the Darleen Druyun case, a Defense Science Board Task Force was formed in 2005 which recommended that the DoD provide oversight in both processes and execution, and that audits should also review the process itself and not just adhere to the stated process (Under Secretary of Defense (AT&L), 2005). The Under Secretary of Defense (AT&L) also addressed improving the professionalism of the acquisition workforce and establishing higher ethical standards in his memorandum *Better Buying Power 2.0* (Under Secretary of Defense (AT&L), 2012). To better manage contractors in contingency environments, DoD began implementing new tools and policies to fully integrate

operational contract support (OCS) into all DoD operational plans. According to the GAO (2013), the combatant commander's inclusion of Annex W, the portion dedicated to OCS in their plans, has dramatically improved since 2010. In addition, training specific to contingency contracting personnel and non-acquisition personnel who serve in contracting roles has been strengthened.

G. IMPLICATIONS OF CONTRACTING DEFICIENCIES

The mismanagement of DoD contracts has implications for the wasted government dollars, reduced effectiveness for the force, and the potential for violating statue and public policy. In terms of dollars wasted, it is difficult to pinpoint an exact number of dollars that have been lost due to procurement fraud. But according to a worldwide survey conducted by the Association of Certified Fraud Examiners (ACFE) on their members, they "estimated that a typical organization loses 5% of its revenues to fraud each year" (Association of Certified Fraud Examiners (ACFE), 2012, p. 4). If one was to use the figure of 5% to estimate the DoD's loses, it would equate to about $18 billion in FY2012. This is based on the figure referenced previously that the DoD spent $360,796,659,155 on contracts in FY2012. One can argue that this figure is conservative because the DoD adheres to unique government policies, such as source selection procedures and the inclusion of disadvantaged businesses that are more susceptible to fraud. Fraud and mismanagement in the contracting process can also prevent crucial services or equipment from being available to the DoD. Such was the case with the Air Force's program to replace their aging aerial refueling tankers in the early 2000s. This program went through three rounds of solicitations spanning almost a decade, due to the misuse of purchasing methods, fraud, and the improper selection of the awardee (Majumdar, 2011). Contracting deficiencies can also cause violations of statute, such as failing to remain within certain cost thresholds in major defense programs, failing to properly following policies regarding including disadvantaged groups, and losing the trust of the public in government contracting competency.

H. SUMMARY

In this literature review, the basis of the research with a description of the six phases of contract management, five components of internal control, and six procurement fraud schemes categories were presented. Each area was summarized in detail to provide a foundation of knowledge in these areas before presenting the results of the research. The current setting in DoD contracting was also presented with the significance of business involved, the problems identified in recent years, the response from the DoD, and the risks associated with procurement fraud. The next chapter will introduce the Army's Mission and Installation and Contracting Command (MICC) and its role in Army contracting. The MICC will serve as the basis for the research on contracting processes, internal controls, and procurement fraud schemes.

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III. ARMY MISSION AND INSTALLATION CONTRACTING COMMAND

A. INTRODUCTION

The U.S. Army Mission and Installation Contracting Command's (MICC) mission is to provide contracting services for the U.S. Army units and facilities located in the continental United States (CONUS). As such, they are located in all parts of the country and perform a wide variety of contracting functions. Their mission includes contracting for equipment, services, and minor construction. Taking into account their mission and the type of personnel involved in the organization, the MICC is a good representation of DoD contracting as a whole: therefore, an ideal candidate for this research.

B. ARMY ACQUISITION ORGANIZATION

The acquisition structure in the Army falls under the Army Material Command, and it includes the mission focused program executive officer (PEO) organizations such as the Aviation and Missile Command and the Tank and Automotive Command in which systems acquisition takes place and the Army Contracting Command (ACC) in which contracting for the support and sustainment of the force takes place, as shown in Figure 1. As a major subordinate command of Army Material Command, ACC is headed by a major general and has command over the MICC, Expeditionary Contracting Command (ECC), and six contracting centers. ECC is similar to the MICC but provides services to overseas Army facilities and units and is more focused on operational contracting support with its contingency contracting teams (Leisenring, 2011). The six contracting centers under ACC provide contracting support for their co-located PEOs and the life cycle support for their associated systems (U.S. Army, 2013).

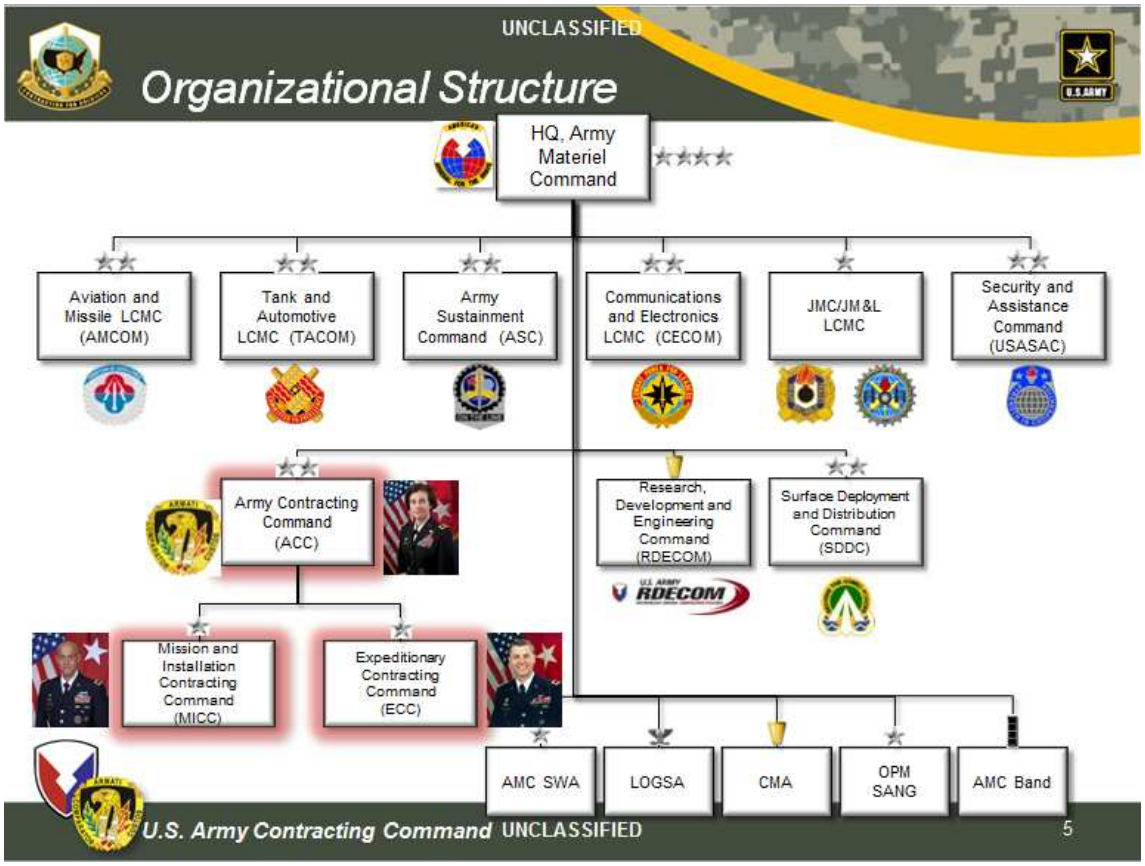


Figure 1. Army Material Command Organization (From Vollmecke, 2012).

C. MICC ORGANIZATION

The MICC is organized with a focus on the specific Army organization that is being supported. It has a headquarters element based at Fort Sam Houston, TX, and four Field Directorate Offices (FDOs), each with a specific customer within the CONUS based Army. FDO Fort Eustis's supported command is the Training and Doctrine Command (TRADOC), FDO Fort Knox's supported command is the Human Resources Command (HRC), FDO Fort Hood's supported commands are the Army Test and Evaluation Command (ATEC) and the U.S. Army Reserve Command (USARC), and FDO Fort Bragg's supported command is Forces Command (FORSCOM) (Vollmecke, 2012). With an alignment focused on the customer, the 34 different subordinate FDO offices or MICCs are not organized geographically but located based on the dominant customer in that fort as shown in Figure 2.

D. MICC PERSONNEL

The MICC is commanded by a brigadier general and the workforce is composed of a mix of civilian personnel and military. As of FY2012, there were 1,328 civilian and 22 military personnel in the MICC (Leisenring, 2011). Among these contracting personnel, there are contracting specialists and warranted contracting officers. A warranted contracting officer is someone formally appointed by an agency with specific contracting authority. A contracting specialist is someone generally with less experience or performs more specific tasks in the contracting process. Only a warranted contracting officer is authorized to enter into contracts on behalf of the Government (FAR, 2013).

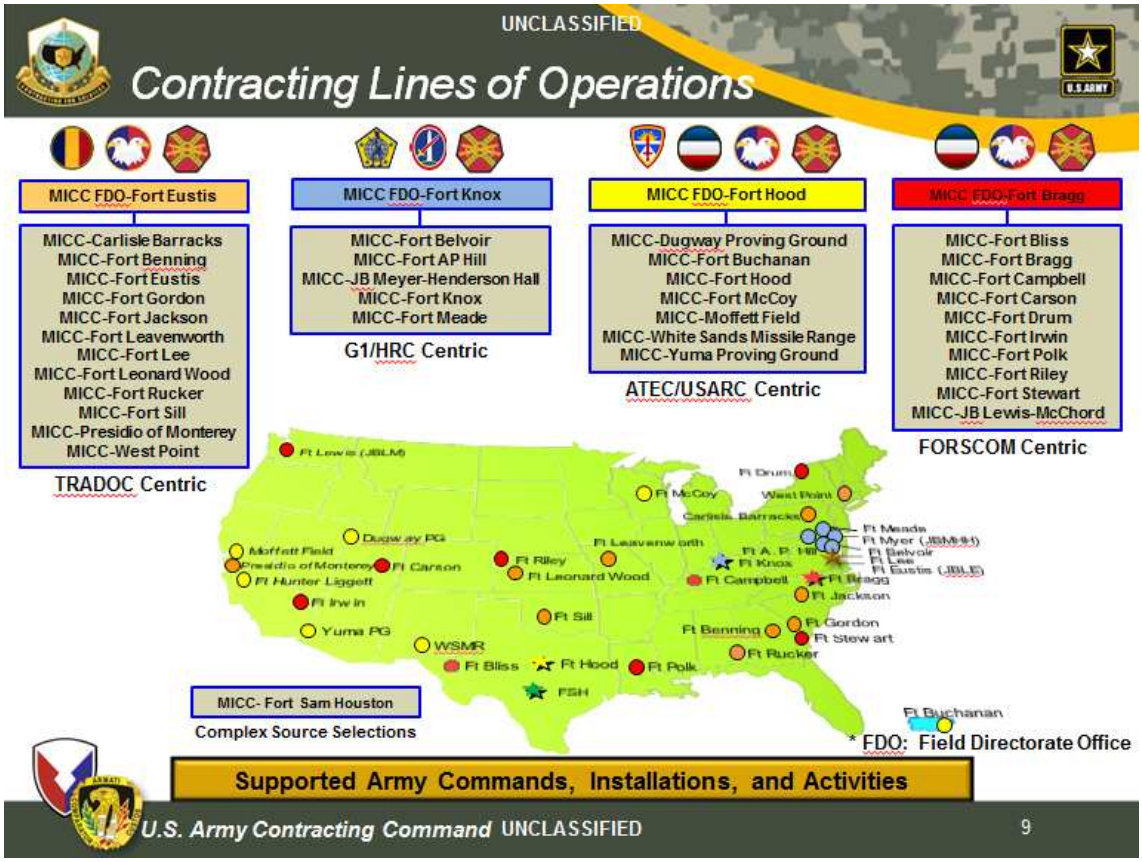


Figure 2. Mission and Installation Contracting Command Organization (From Vollmecke, 2012).

E. MICC OPERATIONS

The scope of contracting conducted by the MICC can be described as operational contracting or all contracting other than systems acquisitions. Systems acquisition is the structured process of acquiring major weapon systems. The structured process is defined by phases that have clear tasks and milestones that must be completed in order to move on to the next phase. (DAU, 2012). Operational contracting covers anything from procurement of installation support service, procurement of office supplies and training support, to minor construction. This contracting is not as well defined as the contracting in systems acquisition; and therefore, it is characterized by increased flexibility, interpretation, and potential for fraud.

The MICC characterizes its contracting functions into three main areas of mission, installation, and minor construction. An example of mission contracting includes flight training. An example of installation contracting is dining facility operation. Minor construction covers unspecified minor military construction not exceeding $750,000 (NDAA, 2011). In 2012, the MICC processed over $6.4 billion in contracts out of all of its offices (Vollmecke, 2012). These transactions used a variety of contracting vehicles, from simple micro purchases using the government purchase card to complex service contracts covering multiple locations.

F. SUMMARY

In this chapter, a brief overview of the MICC was provided. The broader Army Material Command organization was discussed, as well as the chain of command down to the individual MICC offices. The MICC's mission of supporting the Army located in CONUS was presented as well as the MICC's organization, composition of the workforce, and the scope of contracting. The next chapter will discuss the development of the assessment tool that was completed by the contracting personnel at the MICCs.

IV. METHODOLOGY

A. INTRODUCTION

This chapter provides an overview of the methodology used in this research. Specifically, this chapter presents discussion of the survey's design, the formulation of the research questions and the choice of subjects who would adequately represent the average government contracting professional.

B. DEVELOPMENT OF ASSESSMENT TOOL

The goal of the assessment tool was to measure the participants' knowledge of procurement fraud. This was accomplished by having participants answer a set of multiple choice knowledge questions on general procurement fraud. These questions were developed by the researcher with the aid of several reports on contracting fraud. The aim was to base these questions on a general knowledge of fraud schemes and not on any information listed in regulations. The questions were developed for each phase of the contract management process and further identified according to their associated internal control component and procurement fraud scheme. The survey also included Likert scale questions dealing with organizational environment and fraud. The survey was deployed online using the Naval Postgraduate School supported LimeSurvey software. An online survey is the most efficient method of reaching the target audience of widely separated participants.

1. Sources Used to Develop Questions

Several sources were utilized to aid in the development of the 27 knowledge-based questions. One of the main sources was the U.S. Agency for International Development (USAID)(n.d.), Office of the Inspector General, Office of Investigation's *Fraud Indicators* handbook. This handbook lists various indicators of contracting fraud that will help government employees in recognizing procurement fraud. The handbook breaks down indicators based on schemes, contracting phase, and personnel conducting the fraud. Another source utilized was the DoD's Office of Inspector General's report

Contingency Contracting: A Framework for Reform, 2012 Update (Department of Defense Inspector General (DoDIG), 2012). This report is similar to USAID's in that it contains lists of fraud indicators as organized by various phases in the contracting process, but it also provides concrete examples of fraud occurrences. Some of the organizational Likert–scale questions were taken from the Internal Control Survey developed by the New York State Internal Control Association (NYSICA) (NYICA, 2006). Another source utilized was the ACFE contract and procurement fraud data (ACFE, 2013).

2. Development of Knowledge Questions

The knowledge questions were developed with the goal of assessing as accurately as possible the fraud knowledge level of the participants according to each of the six contract phases, five internal control components, and six procurement fraud schemes. An effort was made to spread the number of questions out evenly according to those three criteria. The answers to the questions could not be easily looked up by participants in a regulation such as the FAR, but were more scenario based. For example, after being presented with a short statement or situation, participants were asked something similar to "Which one of the following is MOST LIKELY a case of …?" With this type of question, participants would have to know the answer already and could not easily look for it in other sources, thereby providing a more accurate assessment of their existing knowledge level. The questions were developed from the various fraud indicators listed in government reports. All of the 27 knowledge questions were multiple-choice format, with four possible answers. In addition, "I don't know" was also offered as an option on all of the questions.

3. Development of Demographic and Organizational Questions

The purpose of the demographic and organizational questions was to gain an understanding of the perception of the participants towards his or her organization and gather data on who was completing the survey. The five demographic questions were included to determine the participants' status (civil servant or military), contracting work

experience, warranted status, Defense Acquisition Workforce Improvement Act (DAWIA) certification level, and organization.

There were a total of 12 organizational questions. These consisted of a statement such as "My department has …." with response options offered in a Likert scale format from "Strongly Agree" to "Strongly Disagree." Additional answer choices of "I don't know" and "I prefer not to answer" were also given as choices in all of the organizational questions. The questions were designed to help determine if any parts of the organization's internal structure, process, or attitude made it more susceptible to fraudulent activity. They were also designed to determine the reactions of the participants upon encountering fraud in their organizations. The participants were also asked which of the six phases of contracting, five components of internal control, and six procurement fraud schemes were most vulnerable to fraud in their organizations.

C. DEPLOYMENT OF ASSESSMENT TOOL

The survey was deployed to the participant pool of MICC contracting personnel through the online survey-hosting service LimeSurvey. The survey's target audiences were the military (51C, Military Occupational Specialty) and civilian (1102, Position Classification) contracting personnel at the MICC offices. These could be contracting specialists or warranted contracting officers, with varying levels of DAWIA certification levels. The determination of who the participants were was left to the administrative personnel at MICC headquarters, who sent the survey out to all of the MICC offices. Each participant was emailed a link to the survey and completed it at their workstations within a three-week time frame. The results were then collected by the researchers from LimeSurvey without any feedback to the participants.

D. DATA ANALYSIS

The methods used to analyze the data included the use of descriptive statistics. The results were reviewed for any patterns for differences in the areas reviewed: contract management phases, internal control components, or procurement fraud schemes. Each of these categories was examined for the phase, component, or scheme that appears to be the most susceptible to fraud. Each category was also reviewed according to the which

questions were most missed and least missed. Furthermore, the results were reviewed according to the demographic data in regards to experience, certification level, and employment status. From the perception questions, those results were compared with the results of the knowledge questions to see if their perceptions matched their results.

E. SUMMARY

In this chapter, the source of the assessment tool, development of the questions, deployment of the survey, and analysis of the results were covered. The assessment tool stemmed from the recent government reports outlining the common indicators of fraud, specifically from USAID and DoD reports. These indicators were used to develop the knowledge questions. Demographic and organization perception questions were also added to increase the ways in which the data could be interpreted. The survey deployment to the contracting personnel of the MICCs was explained as well as the selection method of the participants. The evaluation of the results was also discussed regarding the way data was reviewed and the statistical methods used. The next chapter will discuss the findings and analysis from the results of the survey, along with recommendations.

V. FINDINGS, ANALYSIS, AND RECOMMENDATIONS

A. INTRODUCTION

In this chapter, the results of the survey will be presented as collected from the LimeSurvey website, which will include demographic data and knowledge question data. Further analysis of the results will follow with the breakdown along the contract management phases, internal control components, and procurement fraud schemes. An analysis of the organizational perception responses will also be presented. Finally, recommendations on improving the contracting workforces' level of procurement fraud knowledge will be provided.

B. FINDINGS

1. Survey Response

The survey was deployed to the participants on April 1, 2013, with it remaining open until April 26, 2013, for the purposes of this study. Within that period, 99 participants completed the survey. In addition, there were 47 people who opened the survey but did not complete it, so those responses were not included in the analysis. This is out of a total of 1350 personnel who were eligible to take the survey bringing the response rate to 7%. After reviewing the results, there seemed to be one knowledge question for which the information from LimeSurvey was clearly different from the rest and did not equate to possible responses; therefore, that question was removed from the results of this study. Participation as distributed among the FDOs is shown below in Figure 3. There was an uneven distribution of completed surveys from the FDOs, as there was only one completed survey from FDO-Fort Bragg. The reason for this is not clear, but it could be due to the breakdown of communication with the email invitation distribution method causing the eligible personnel to not receive the invitation or just the lack of desire to complete the survey.

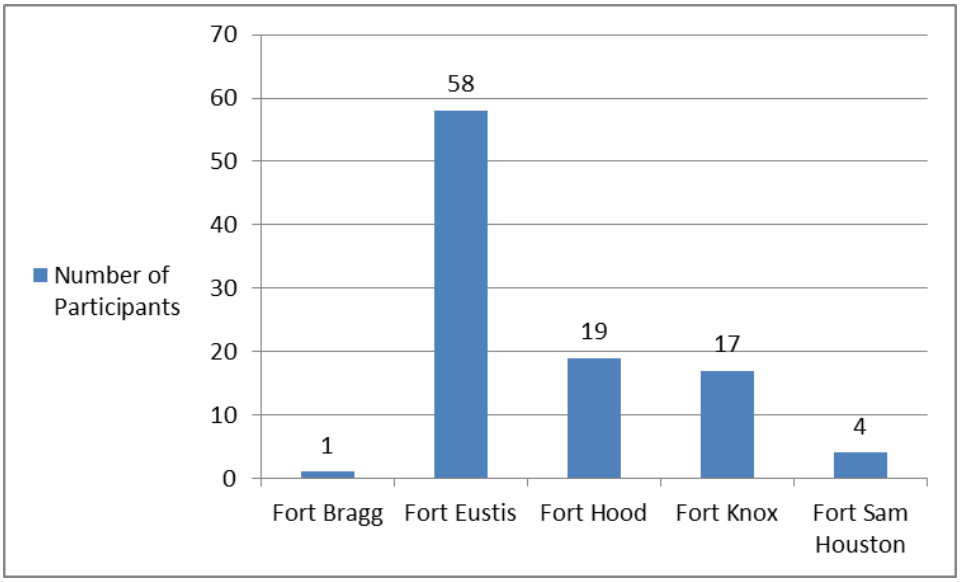


Figure 3. Number of Participants by FDO

2. Responses by Employment Category

The completed responses included 92 who identified themselves as civilian and seven as military. The larger number of responses from civilians is expected since there are significantly higher numbers of civilians in the MICC contracting workforce.

3. Responses by Experience

The respondents were divided by how many years of contracting experience they possessed, from 0 to 2, 3 to 5, 6 to 10, 11 to 20, and over 20 years. Figure 4 displays the number of responses received from each group. All groups were well represented, with at least 15 and no more than 26 participants in each group.

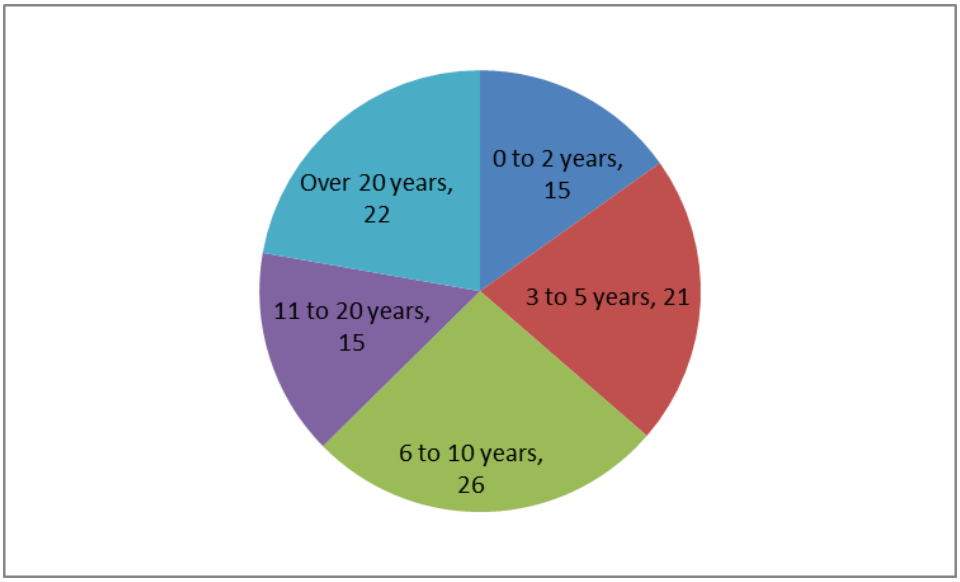


Figure 4. Number of Participants by Experience Group.

4. Responses by DAWIA Level

Figure 5 displays the number of participants by their DAWIA certification level. The categories are from no certification to level III, which is the highest level of certification. The vast majority (88) of the participants was from those holding a level II or III certification, while those having level I or none made up only 11 of the responses.

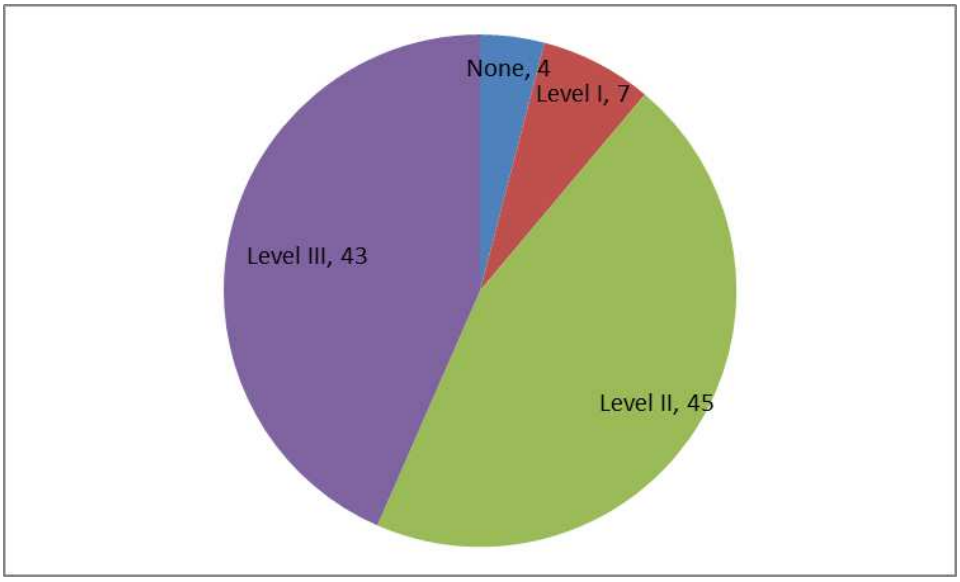


Figure 5. Number of Participants by DAWIA Level

5. Responses by Warranted Status

The participants were also categorized according to whether they were a procurement contracting officer with a contracting warrant. 54 participants stated that they had a warrant, and 45 participants stated they did not have a warrant.

C. ANALYSIS OF KNOWLEDGE QUESTIONS

The knowledge questions used in the results consisted of 26 questions which were categorized according to the contracting phase, internal control component, and procurement fraud scheme that they are most closely associated with, as displayed in Table 1. The average score among the 99 participants was 63% correct of the 26 knowledge questions. The score refers to the percentage of survey questions answered correctly among the knowledge questions. Further analysis is provided below according to the demographic categories.

Contracting Phase	Number of Questions	Internal Control Component	Number of Questions	Procurement Fraud Scheme Category	Number of Questions
Procurement Planning	5	Control Environment	3	Collusion	3
Solicitation Planning	4	Risk Assessment	6	Conflict of Interest	6
Solicitation	5	Control Activities	6	Bid Rigging	6
Source Selection	5	Information and Communications	4	Billing/Cost/Pricing Schemes	4
Contract Administration	5	Monitoring	7	Fraudulent Purchases	3
Contract Closeout	2			Fraudulent Representation	4
Total	26	Total	26	Total	26

Table 1. Number of Knowledge of Questions by Categories

1. Analysis by Demographic Classification

a. Civilian or Military Status

Figure 6 displays the average percentage of correct responses from those that identified themselves as civilian and military. The two groups' scores were very similar to each other at 62.4% for civilians and 64.3% for military.

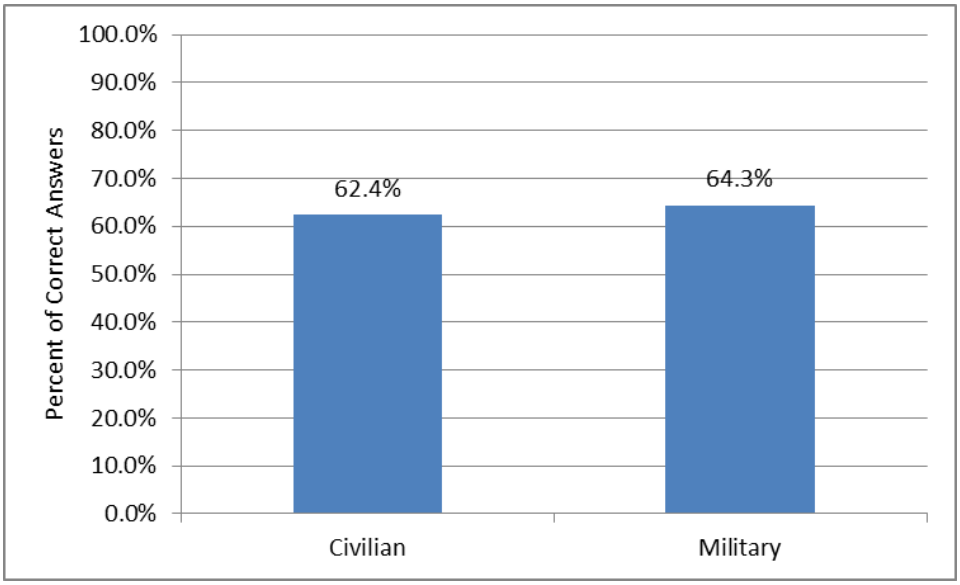


Figure 6. Average Scores by Employment Status

b. Experience

The average score for the knowledge questions was calculated for each experience group and is shown in Figure 7. These scores showed a positive correlation in the number of years of experience to their scores. Each successive group averaged a higher score than groups with lesser experience. The scores ranged from 55.4% for personnel with 0 to 2 years of experience to 70.5% for those with over 20 years of experience.

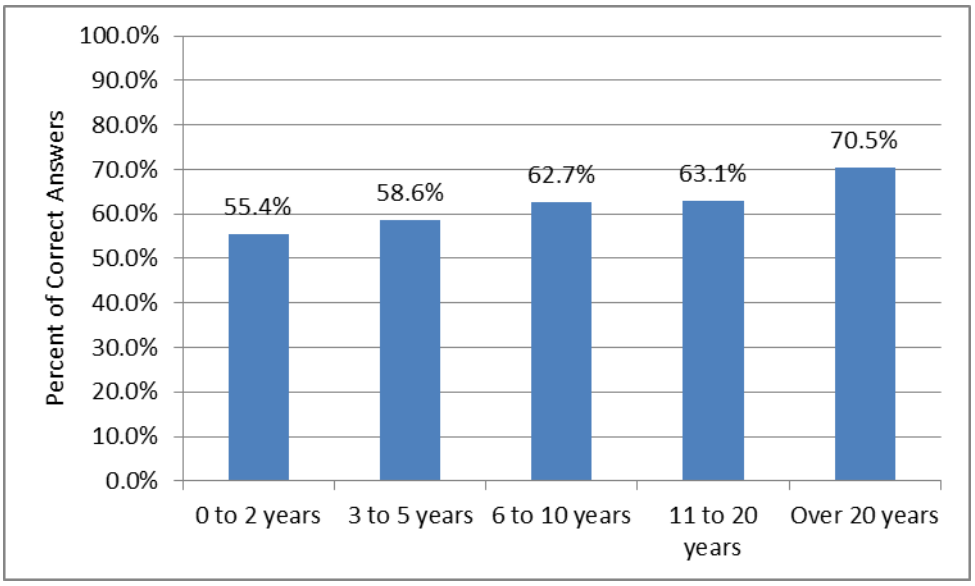


Figure 7. Average Score by Experience Level

c. DAWIA Certification

The average scores of the knowledge questions among the DAWIA level groups also displayed a positive correlation with those with higher certification levels achieving the higher scores. The scores ranged from 44.2% for those without DAWIA certification to 67.0% for those with level III certification as shown in Figure 8.

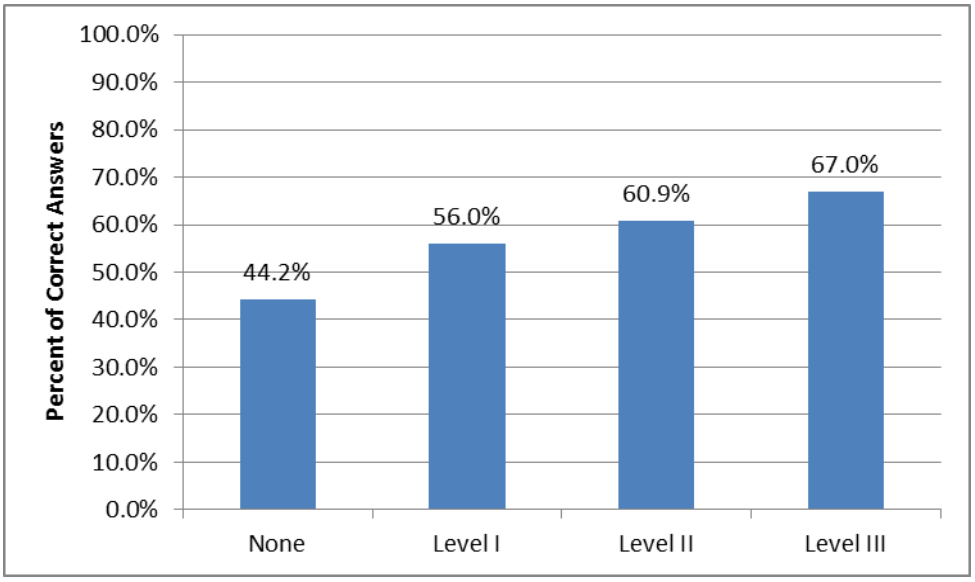


Figure 8. Average Score by DAWIA Level

d. Warranted Status

Figure 9 displays the average scores of the participants who identified themselves as having or not having procurement contracting warrants. Those with a warrant averaged 66.8% correct while those that did not have a warrant averaged 58.9% correct.

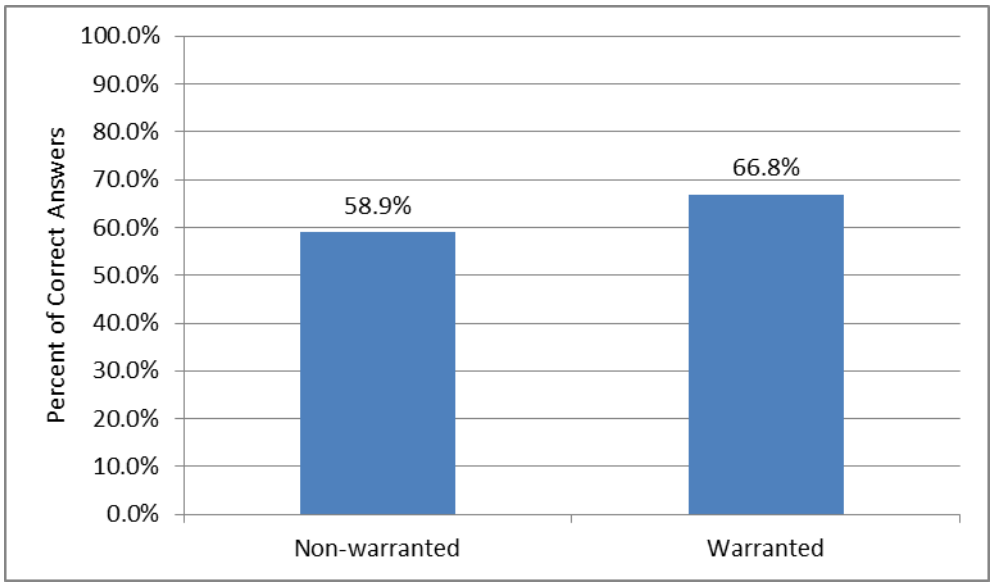


Figure 9. Average Score by Warranted Status

2. Analysis of Contracting Phases

The results from the knowledge questions according to contract management phases are shown in Figure 10. Scores ranged from a low of 36.4% in contract closeout to 75.4% in procurement planning. For example, for all of the procurement planning questions, the average score (percent correct) was 75.4%, and this analysis was done for each of the contracting phases.

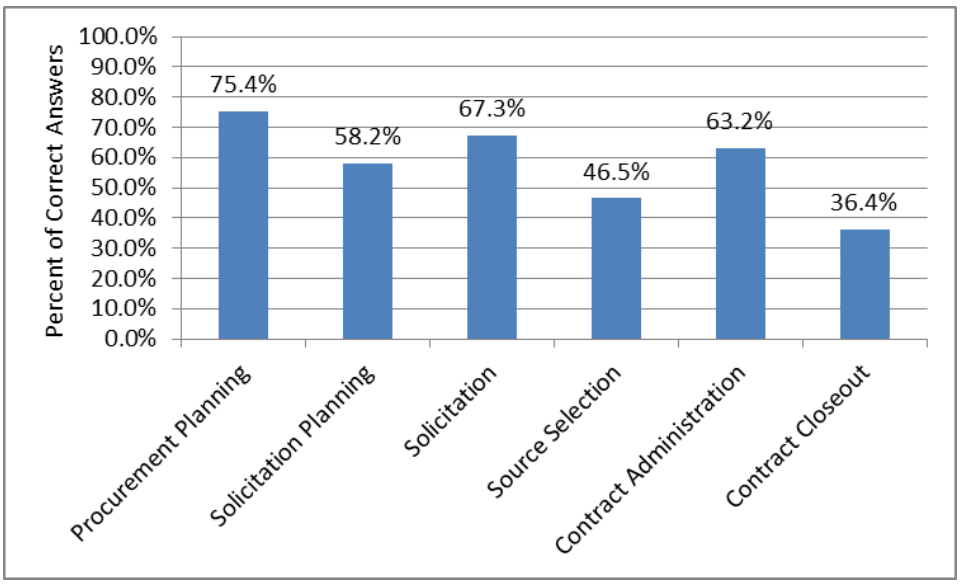


Figure 10. Average Score by Contracting Phase

3. Analysis of Internal Control Components

The results of the knowledge questions that related to internal controls are shown in Figure 11. Internal control is a difficult area to categorize questions, as questions often overlap the different internal controls and could possibly be placed in more than one component. Information & communication had the lowest average score with 49.2% while risk assessment had the highest with 69.8%. For example, for all of the control activities questions, the average score (percent correct) was 65.7%, and this analysis was done for each of the internal control components.

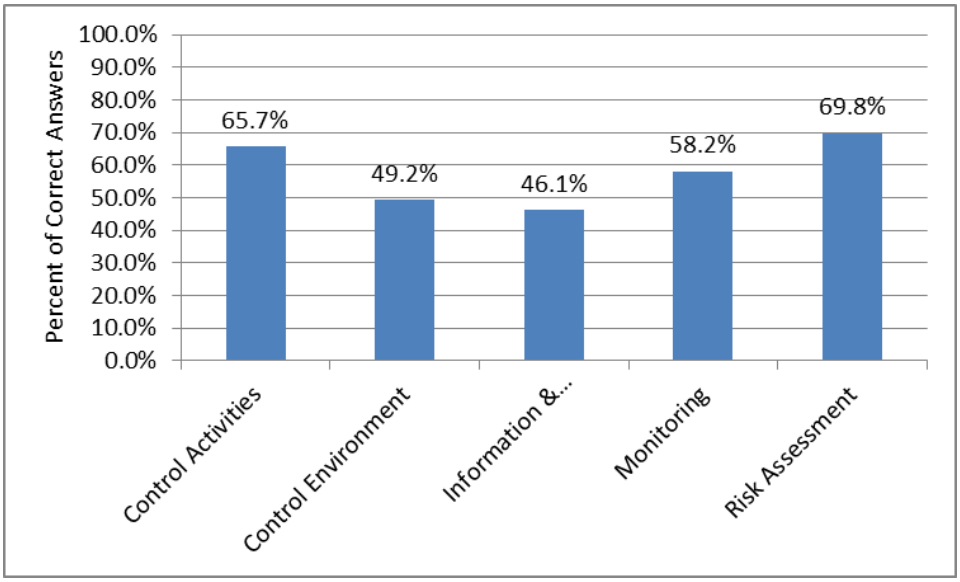


Figure 11. Average Score by Internal Control Component

4. Analysis of Procurement Fraud Schemes

The results of the knowledge questions regarding procurement fraud scheme categories are shown in Figure 12. The scores ranged from a low of 43.0% for billing/cost/pricing schemes to a high of 81.6% for bid rigging. For example, for all of the bid rigging questions, the average score (percent correct) was 81.6%, and this analysis was done for each of the procurement fraud schemes.

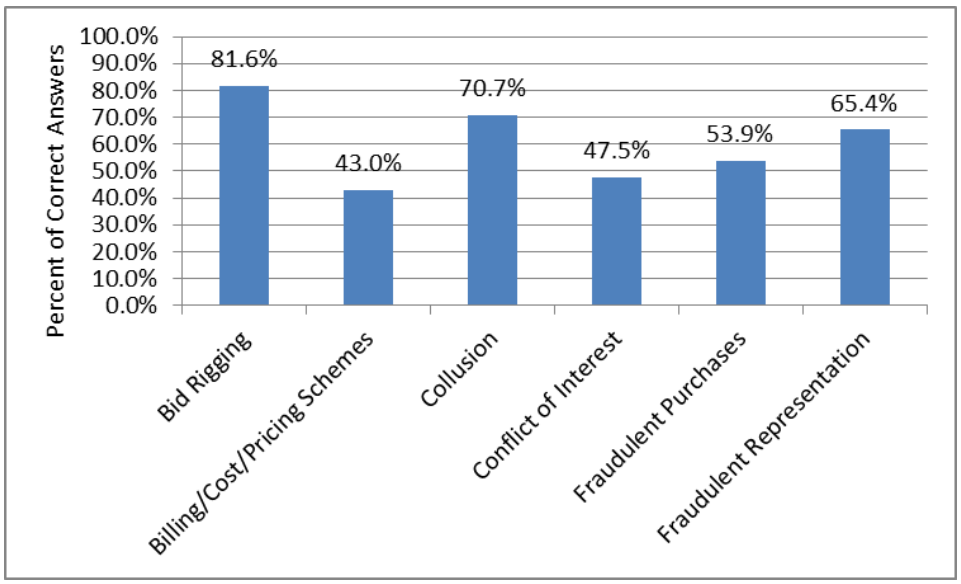


Figure 12. Average Score by Procurement Fraud Scheme Category

5. Analysis of Specific Questions

In this analysis, the survey results were reviewed by the knowledge questions most often missed and most often answered correctly among all the questions, and by contracting phases, internal control components, and procurement fraud scheme categories.

a. Most and Least Missed Knowledge Questions

The results of the knowledge questions displayed a wide range in the number of respondents who answered them correctly. The most commonly missed knowledge question was the question below with the correct answer underlined.

18. Which one of the following situation is the MOST LIKELY indicator of potential fraud during the evaluation of bids?

A. Bids not being received at the expected location

B. The majority of bids being received late

C. The low bidder being allowed to withdraw their bid

D. A greater than expected variation in prices among bids

Only 20 participants chose the correct answer C, while 33 answered A, 16 answered B, 15 answered D, and 15 answered "I don't know." Allowing the low bidder to withdraw their bid during evaluation is a likely indicator that potential fraud could be occurring. Specifically, the bidder working with someone in the agency asks to have their bid withdrawn, since they found out their bid was too low, and they no longer want to perform the contract. The most common choice of A, bids being received not at the expected location is less of an indicator of fraud, but more likely an administrative error by the contracting personnel or the delivery method.

The knowledge question least missed were the two below (questions 2 and 5) which were both answered correctly by 94 participants each.

2. Tailoring statements of work and specifications to suit a particular offeror

A. Is an acceptable practice that shortens procurement lead times

B. Helps level the playing field for disadvantaged competitors

C. Is not acceptable because it prevents fair competition

D. Is not acceptable because the government should not lower standards to industry levels

5. A reasonable way to minimize the potential of any possible collusion between an end user in your agency and an offeror is to

A. Never use the recommended sources from the end user

B. Continually rely on the same trusted industry sources

C. Never use the highest bidder

D. Have multiple sources for common requests

Question 2 is attempting to first conclude that tailoring specifications for an offeror is prohibited. Question 5 asks the respondent to identify what collusion is and how to most likely to prevent it.

b. Contracting Phase Analysis

The contracting phase that was most missed among the knowledge questions was the contract closeout phase, which had an average correct score of 36.4%.

The low score could be due to the fact that the majority of contracting personnel who participated in the survey do not deal with contract closeouts. The most missed question is listed below.

27. When closing out a contract, which one of the following item will MOST LIKELY be an indicator of over-charging during the performance of the contract?

A. Discovery that the contractor didn't disclose their discounts and credits

B. Discovery of left over materials after the completion of performance

C. Disclosure by the contractor of their greater than estimated profit in a fixed-priced contract

D. The greater than expected amount of government furnished material that was returned

The correct answer of A is the most likely indicator of procurement fraud, as the contractor not disclosing their discounts and credits can be a sign that the contractor is attempting to conceal the true cost of performance. The other answer choices are more likely due to errors, oversight, or are not considered fraudulent activity.

The contracting phase least missed was procurement planning, which averaged a score of 75.4%. This could be due to the fact that many of the fraudulent activities during this phase are generally better known, such as tailoring specifications, fraudulent purchases, and collusion. The least missed question corresponding to the procurement planning phase is shown below.

5. A reasonable way to minimize the potential of any possible collusion between an end user in your agency and an offeror is to

A. Never use the recommended sources from the end user

B. Continually rely on the same trusted industry sources

C. Never use the highest bidder

D. Have multiple sources for common requests

Answer D is clearly the correct choice as it is the only reasonable method to minimize the potential of collusion and is a common best practice for contracting to have multiple sources in as many requests as possible.

c. Internal Control Analysis

The internal control component that received the lowest average score was information and communication. The questions that corresponded with that category received an average of 46.1%. The question among those in the information and communication that was most missed was number 27, which was described in the previous section under the Contract Phases Analysis. The next most missed question with 40% correct in the information and communication control component is listed below.

19. All of the following are possible indicators of an agency employee releasing contract information to a favored offeror EXCEPT:

A. The proposed costs are substantially lower than government cost estimates

B. The proposed costs are very close to the government cost estimates

C. Only one contractor meets the technical requirements of the contract

D. Only one contractor meets the schedule requirements of the contract

The correct answer is A, which would not occur if an offeror had access to privileged contract cost information. In these situations, the offeror would normally offer a price similar to the government cost estimate in order to increase the chances of being awarded the contract and maximize revenue.

The internal control component with the highest percentage of correct answers is risk assessment, which averaged a score of 69.8%. The question in this component least missed was number 5, with 95% answering correctly. This question is explained in the previous section under the Contract Phases Analysis. The next question least missed is listed below.

8. Working with a particularly knowledgeable industry source to develop a complex statement of work can MOST LIKELY lead to what type of fraud?

A. Bid rigging

B. Cost mischarging

C. Product substitution

D. Tailoring specifications

Rephrase. Avoid starting sentence with number.94% of the respondents answered correctly with D. Tailoring specifications is the clear choice, as the risks of the other types of procurement fraud choices are much lower from the activity described in the question.

d. Procurement Fraud Scheme Analysis

Billing/Cost/Pricing Scheme was the area in which the respondents averaged the lowest scores among the knowledge questions, with a 43.0% correct average. The low score could be due to many of the contracting personnel not regularly dealing with billing, cost, or pricing, or these schemes are an area that overlaps into other specialties such as finance and price analysis. The question most missed was number 27 which was detailed in the Contract Analysis Phase. The next most missed question, shown below, was number 23 with 44% answering correct.

23. Which one of the following is MOST LIKELY a case of cost mischarging concerning labor costs?

A. Contractor subcontracting to an affiliated company at inflated rates

B. Contractor using higher rate personnel to perform at lower rates

C. Contractor accounting for learning-curve cost adjustments.

D. Contractor unknowingly using an out of date labor cost schedule

The correct answer A is the best answer among the choices. The other three choices would not necessarily increase rates that the contractor is charging the government. Answers B and C would keep the rates as they are or lower them. Answer D could lower or increase rates, but is not intentionally done; therefore, it is not considered mischarging.

The procurement fraud scheme that was least missed was bid rigging, which had an average score of 81.6%. The knowledge questions least missed in this category were numbers 2 and 8, which were answered correctly 95% and 94% respectively. They are detailed previously in this chapter. The next least missed question with 85% answering correctly was number 15, which is listed below.

15. In a case where there is a large pool of potential offerors and your agency receives less than the expected number of proposals for a common service solicitation; this could be an indication of what type of fraudulent activity?

A. Fictitious bidding

B. Preferential treatment of bidders

C. Collusion of bidders

D. Price fixing

The correct answer of C is clearly the best answer as an agency receiving less than the expected number of bids is a good indicator that the process is being subverted, and the best explanation among the answer choices is that offerors are colluding among themselves to suppress the number of bids.

D. ANAYLSIS OF ORGANIZATIONAL QUESTIONS

In addition to the 26 knowledge questions used in the results of the survey, 12 organizational questions were also included. Nine out of the 12 organizational questions related to perceptions regarding procurement fraud. These nine questions were measured on a Likert-scale with options ranging from strongly disagree to strongly agree. Three of the 12 organizational questions asked the participants to identify the contracting phase, internal control component, and procurement fraud scheme category to which their organization was most susceptible. For these identification questions, the answer of "I do not suspect any fraudulent activities in my organization" was also given as an answer choice. For all 12 of the organizational questions, the choices of "I don't know" and "I prefer not to answer" were also given as answer choices. The next sections will provide more details on the Likert-scale and perception questions.

1. Analysis of Likert-Scale Questions

The answers to the Likert-scale questions were assigned a numerical value from one to five, with one corresponding to strongly disagree, two to disagree, three to neither agree nor disagree, four to agree, and five to strongly agree. Of all of the participants, the responses to the nine questions averaged 4.17, and ranged from 3.89 to 4.77 individually.

This indicates that the vast majority felt that their organization had the proper measures in place to combat procurement fraud. The question that received the highest score (participants most agreed with) is shown in Figure 13. This question is asking whether the participant would report fraudulent or suspicious activity if they suspected it. It received a mean score of 4.77.

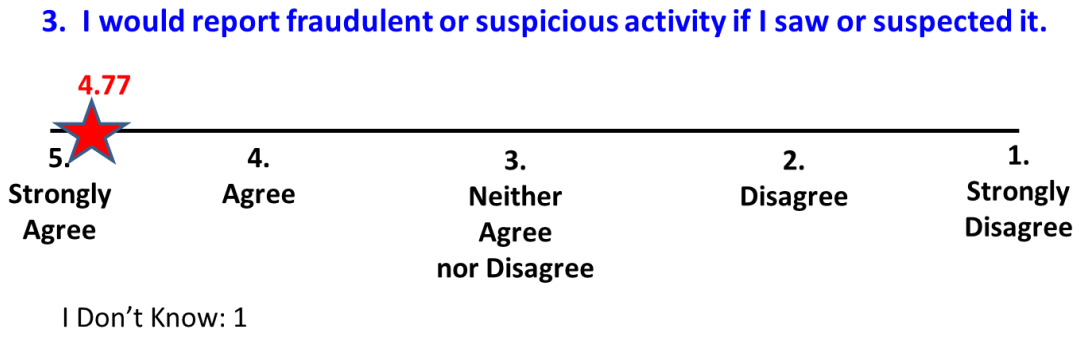


Figure 13. Highest Scored Likert-Scale Question (Rendon, 2013)

The Likert-scale question that received the lowest score (participants least agreed with) is shown in Figure 14. This question asked the participants whether suspected fraudulent or suspicious activity have been adequately reported. Even though this has the lowest score at 3.84, it is still a relatively high score on the Likert-scale. This question also received a large number of "I don't know," responses at 37. All nine Likert-scale questions and answers are shown in Appendix A.

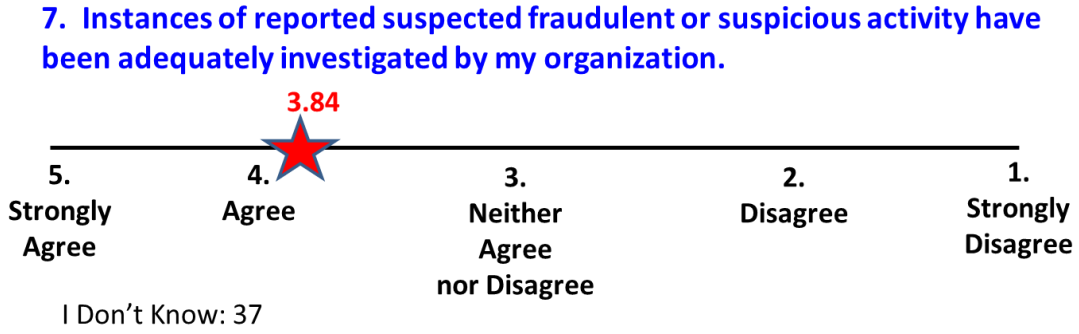


Figure 14. Lowest Scored Likert-Scale Question (Rendon, 2013)

2. Analysis of Perception Questions

a. Contracting Phase

Figure 15 displays the responses received to the question regarding which contracting phase is vulnerable to fraud in their organization. 34% of the participants indicted that they did not suspect any fraudulent activity within their organization. Among the contract management phases, procurement planning was the most often chosen with 20%, while contract closeout was the least with 0%.

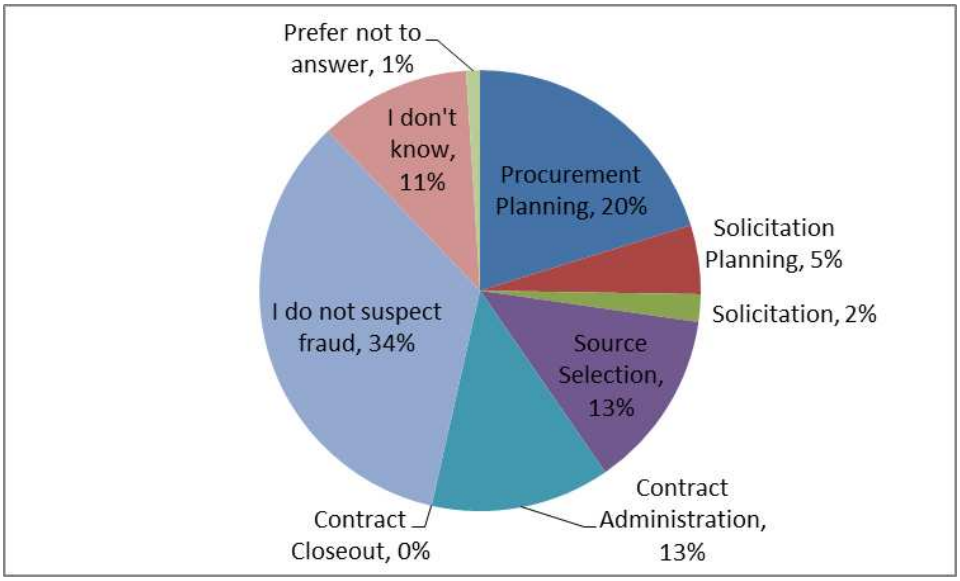


Figure 15. Percent of Responses to Contacting Phase Perception Question

b. Internal Control Component

The survey also included a perception question asking which component of internal control was most vulnerable to fraudulent activity within their organization. 38% of the participants answered that they did not suspect fraud within their organization. "I don't know" was next with 17%. The participants were provided a short description of each component in the online survey as a part of the question. Among the internal control components, the most common answer was information & communication with 13%, and the least common was control environment with 4%. The answers are shown in Figure 16.

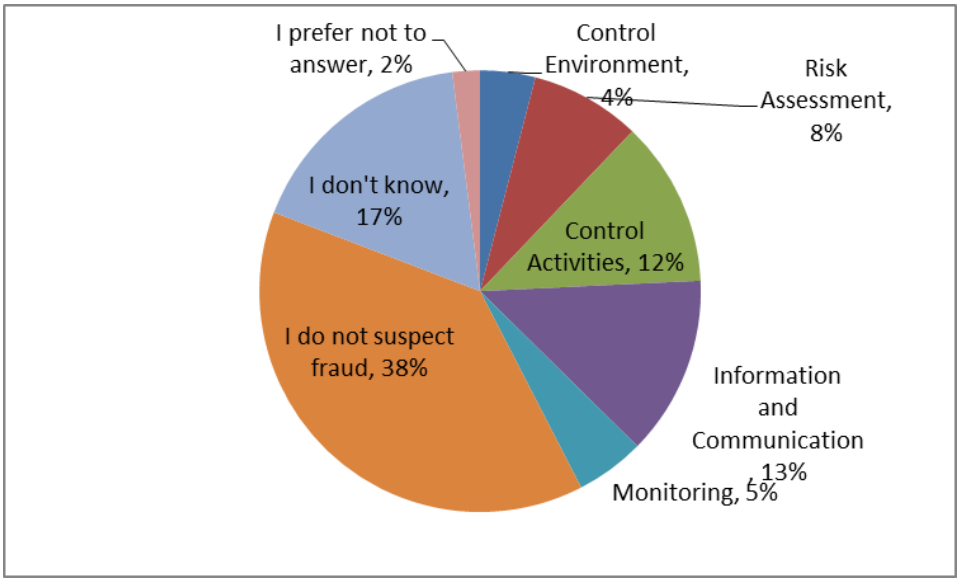


Figure 16. Percent of Responses to Internal Control Perception Question

c. Procurement Fraud Scheme

The participants were also asked which procurement fraud scheme they believed that their organization was most susceptible to procurement fraud. Included in the answer choices were the answers of "I do not suspect any fraudulent activities in my organization," "I don't know," and "I prefer not to answer." Figure 17 displays the results of this perception question. 53% of the participants did not suspect any fraud within their organization. Out of the procurement schemes the most often chosen was conflict of interest with 13%.

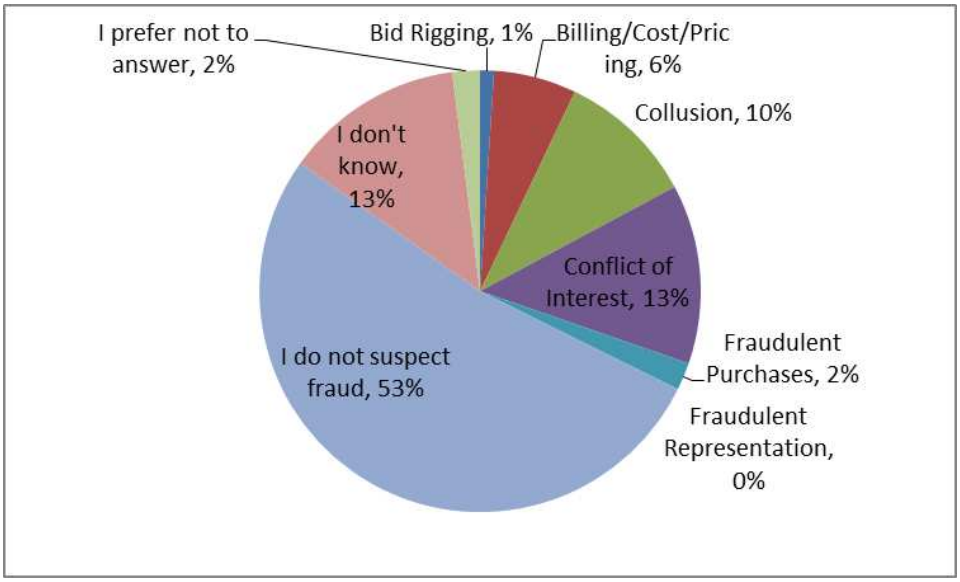


Figure 17. Percent of Responses to Procurement Fraud Scheme Perception Question

This concludes the findings and analysis section of the research. In the next section, recommendations from the analysis of the results will be presented.

E. RECOMMENDATIONS

The results of the survey lead to the following recommendations for improving the knowledge of procurement fraud among the contracting workforce and minimizing the potential for it.

1. Incorporate Procurement Fraud Training

Procurement Fraud should be incorporated into all subjects of contracting training. Since procurement fraud can be a complex subject with many variations, it is unreasonable to expect someone to learn the subject in one given training session or course. Therefore, it would make more sense to add procurement fraud as a topic to other contracting courses such as determining requirements, pricing, or source selection. Since procurement fraud could occur in any organization, contracting professionals need to be aware of possible procurement fraud vulnerabilities. As displayed in the organizational questions in the survey, on all three questions asking which contracting phase, internal control component, and procurement fraud scheme was most susceptible to fraud or

common in their organization, the choice of not suspecting fraud was most often chosen. This could be due to fraud being considered as something foreign or criminal, rather than something that could easily take place in any organization. Including procurement fraud training in all applicable contracting training will decrease the stigma that procurement fraud has and should increase awareness among the contracting workforce. Instituting procurement fraud training this way will also better tailor the complexity of the training to the appropriate audience. For instance, people taking courses for DAWIA III would receive more detailed procurement fraud training than those in a DAWIA I course.

2. Ensure Proper Certification and Experience

The results of the knowledge questions clearly show that the level of procurement fraud awareness rises as the level of DAWIA certification and contracting experience rises. With this in mind, it is important to make sure that all personnel in the contracting process have the proper certification level or experience to perform their tasks. This could be done by either increasing the certification level or experience necessary to qualify for a given position or by increasing the training/awareness of procurement fraud among current contracting personnel. This can coincide with the previous recommendation of receiving procurement fraud training incrementally within given contracting topics. As an example, someone handling invoices should be aware of the potential fraud that could come with manipulating invoices, but that particular person does not necessarily need to be aware of fraud concerning source selections or the rigging of bids.

3. Contract Closeout

Contract closeout was the phase that received the lowest average score among the knowledge questions. Since this is the first time these questions have been used, it is difficult to say that it is the phase most vulnerable to procurement fraud based just on the results of these questions. Also, among the survey respondents, since there could be only a small number of people who deal with contract closeouts, these individuals might have only been a small portion of the sample. But, in addition to the low scores, contract closeout was the only contracting phase that was not chosen by anyone as the phase most vulnerable to fraud. With the low knowledge score and the lack of answers in the

organizational question, contract closeout might be an area neglected in general which would lead to it also being neglected in terms of procurement fraud.

4. Information and Communication

In internal control components, information and communication was the area with the lowest knowledge score and the area most chosen as the most vulnerable to fraud. Information and communication includes internal and external communications, transparency, and knowledge of the appropriate standards of conduct. The organizational accounting system, along with recordkeeping and documentary policies are also part of information and communication. To strengthen this area, organizations should ensure that personnel have a means to report suspected fraudulent activity to outside entities or internally through someone besides their immediate supervisor. Government contracting personnel should be periodically reminded of the proper standards of conduct required of the contracting workforce. Contractors and potential contractors should also be informed of the standards of conduct expected of government contracting personnel, so they too can identify and report any fraudulent activity.

5. Conflict of Interest

Conflict of interest was the procurement fraud scheme most often chosen in the organizational questions as the fraud scheme most susceptible in their organization. It also received the second to the lowest average score with only 47.5% among procurement fraud schemes for the knowledge questions. To strengthen measures against fraud stemming from conflicts of interest, the government should review whether the current system of having personnel complete the Office of Government Ethics Form 450 (which requires personnel in key positions disclosing their financial interests) could be supplemented by statements on contracts that have key personnel on each contract or program stating that they do not have any conflicts of interest. This would include people who normally would not disclose financial interests through the standard disclosure form such as requirements determining personnel. Such statements are part of source selection teams already, but could be included in high dollar contracts and encompass a wider range of people in the program than just the source selection team.

F. SUMMARY

In this chapter the results of the assessment were presented with findings, analysis, and recommendations. In the findings, the basic facts of the survey were given by the demographic information of the respondents and the results of their responses according to contracting phase, internal control component, and procurement fraud scheme categories. In the analysis, the most missed and the least missed questions and their responses were provided according to the categories being reviewed. Finally, five recommendations were provided that would increase the awareness of procurement fraud in the contracting workforce and help strengthen areas identified as susceptible to fraud in the survey. The next chapter will present the conclusion of the research. It will include a summary and areas for further research.

VI. SUMMARY, CONCLUSIONS, AND AREAS FOR FURTHER RESEARCH

A. SUMMARY

Contracting in DoD is a critical function that is a necessity to accomplish everything from facilities maintenance to obtaining the latest weapons systems. Contracting provides DoD with options to accomplish a variety of tasks more efficiently or effectively. Along with the benefits that contracting provides, there is also the potential for abuse of the process through procurement fraud. In this research, an attempt has been made to determine how much the current contracting personnel know about procurement fraud. In the background and literature review chapter, the details of the six phases of contract management, the five components of internal control, and the six common procurement fraud scheme categories were provided. A general overview of the current state and impact of DoD contracting was also given including the dollars spent and the number of contract actions involved. Problems encountered by DoD contracting were then presented along with responses by DoD to address these issues. Finally, the implications of these deficiencies were presented in terms of not getting value for the money, violating public policies, and the increasing risk for fraud.

Chapters III and IV provided a review of the U.S. Army's MICC and an explanation of the research methodology. The MICC was the command whose contracting personnel participate in this research. The command's mission is to support the contracting needs of the Army's CONUS based units and facilities. They focus on contracting for the acquisition of services and supplies as opposed to weapons systems. The pool of potential survey participants in the MICC were comprised of both civilian and military personnel, with civilians making up an overwhelming majority. The research methodology was then presented with the development of the assessment tool comprising of demographic, knowledge, and organizational questions. The demographic questions would gain basic descriptive data on the respondents, the knowledge questions would determine their procurement fraud knowledge, and the organizational questions would assess their perceptions of the organizations. The survey was then released to the MICC offices via LimeSurvey, and then the results were analyzed after a period of about three weeks for the purposes of this study.

B. CONCLUSION

1. Research Questions

The intent of the research was to answer the questions listed below through the development and deployment of the assessment tool and the analysis of the results.

- **What is the contracting workforces' knowledge level of procurement fraud schemes as related to the contract management process, internal control components, and procurement fraud scheme categories?**

The results of the knowledge questions suggest that there is wide variety of knowledge level of procurement fraud among the workforce. The difference in knowledge levels is displayed in the varying of scores received when the questions are divided according to contracting phases, with the procurement planning receiving the highest scores of 75.4% and contract closeout receiving 36.4%. In terms of internal control components, risk assessment received the highest score with 69.8%, and information and communications the lowest score with 46.1%. The contracting workforces' knowledge of procurement fraud scheme categories also showed a varying level of knowledge. Average scores among the knowledge questions ranged from 81.6% for bid rigging to 43.0% for billing/cost/pricing schemes. These results suggest that within the contract management phases, internal control components, and procurement fraud scheme categories, there are phases, components, and categories where procurement fraud may be more likely to occur than in others.

- **What is the contracting workforces' perception of procurement fraud as related to the contract management process, internal control components, and procurement fraud scheme categories?**

The results of the perception questions suggest that the contracting workforce is generally confident in their organization's processes, structure, and reaction to procurement fraud if it did occur. The average score on the Likert-scale questions was a 4.17, meaning the average answer was between "Agree" and "Strongly agree." This confidence in their organization was also displayed in the high numbers of those that answered as not suspecting fraud in their organizations when it came to contracting phases (34%), internal controls components (38%), and procurement fraud schemes (53%). These were all the most often answers chosen among each of the questions. In the next section, areas for further research will be presented.

2. Areas for Further Research

Further areas for research include the refinement of the assessment tool and the deployment of the tool to other contracting organizations within DoD or the government. The assessment tool could be refined through the review of the questions to ensure that they are as equal as possible in difficulty. Not every question will be equally difficult, but each area being reviewed (contracting phase, internal control components, procurement fraud schemes) should have an average difficulty similar to each other. For instance, source selection questions should average an equal difficulty as contract closeout. Another way to refine the assessment tool is by reviewing the answers received to check if there was possible confusion in any of the answer choices; if a large portion of the respondents answered similarly incorrectly to a particular answer.

After refining the assessment tool, it should be sent out to other contracting organizations within DoD to determine if the results obtained in this research are indicative of the contracting workforce in general. The further deployment of the assessment tool will enable greater collection of data to better access the knowledge level of procurement fraud among a larger number of the workforce. This tool could easily be deployed to any and all DoD or governmental contracting organization with ease through LimeSurvey. Since fraud is not normally discussed during day to day work, taking the assessment can also serve as a reminder to the respondents to think about procurement fraud and how their organization is structured to handle any potential fraud which can be beneficial to them as well as their organization.

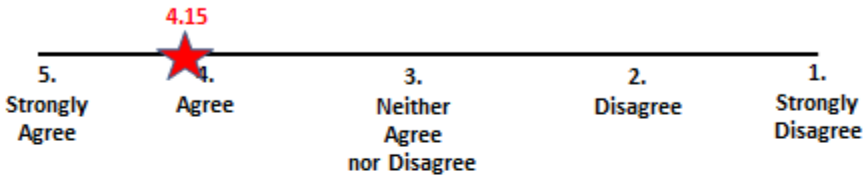
Another area for further research is the use of the confidential disclosure form OGE 450. This form is meant to identify any conflicts of interests that could arise from being employed in sensitive government positions that interact with non-governmental entities. It is a common for contracting personnel to complete the OGE 450 on a regular basis, but how the completed forms are used, if at all, during the contracting process to identify and prevent conflicts of interest could be an area that needs further research.

A final area for further research could include an analysis of the difference between the confidence displayed by the contracting workforce in responding to the

Likert-scale question asking them whether they had adequate procurement fraud knowledge to perform their jobs and the seemingly low average scores by the participants on the procurement fraud knowledge questions. On the Likert-scale question number 6, the average response was 3.90, which equates closely to "agree" at 4, of having adequate procurement fraud knowledge to perform their duties. While on the 26 procurement fraud knowledge questions the average score was 63% correct. Since there appears to be a discrepancy in the self-assessment and the knowledge assessment, further research in this area may be appropriate.

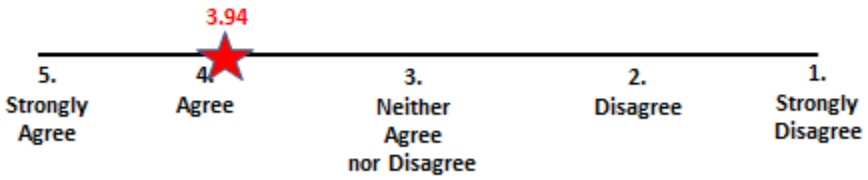
APPENDIX A. LIKERT SCALE QUESTIONS AND ANSWERS

1. My department has clear lines of authority and responsibility.



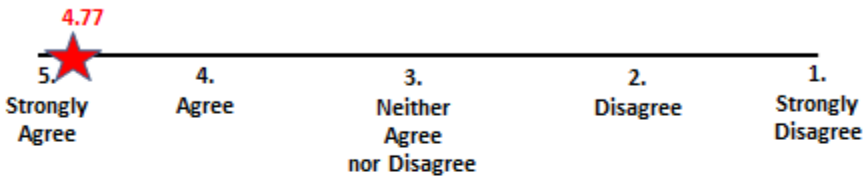
I Prefer Not to Answer: 1

2. My department is regularly reviewed by internal or external auditors.



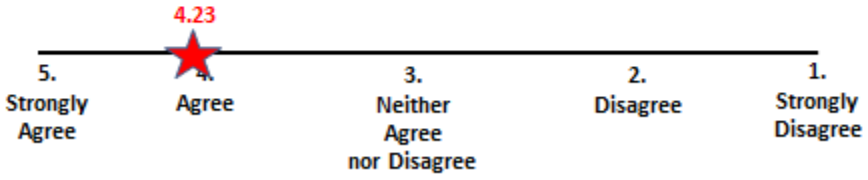
I Don't Know: 9

3. I would report fraudulent or suspicious activity if I saw or suspected it.



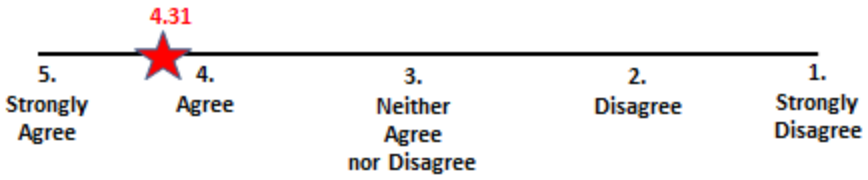
I Don't Know: 1

4. I have a clear way of reporting fraudulent or suspicious activity within my organization outside of my immediate supervisor.



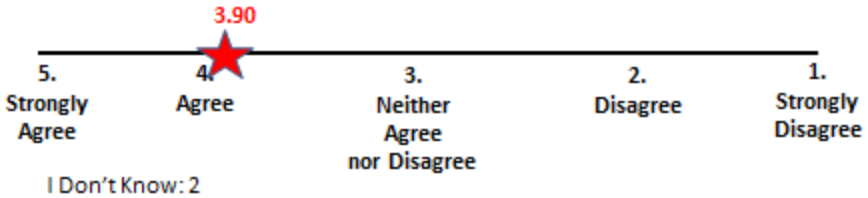
I Don't Know: 3

5. I know who to report to if I saw or suspected fraudulent activities.



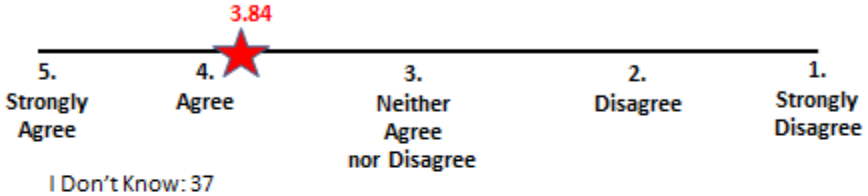
I Don't Know: 3

6. I have adequate knowledge of contracting fraud schemes to perform my duties.



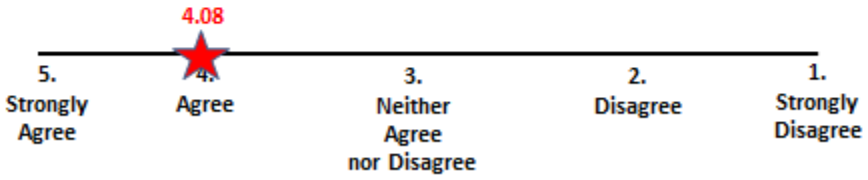
I Don't Know: 2

7. Instances of reported suspected fraudulent or suspicious activity have been adequately investigated by my organization.



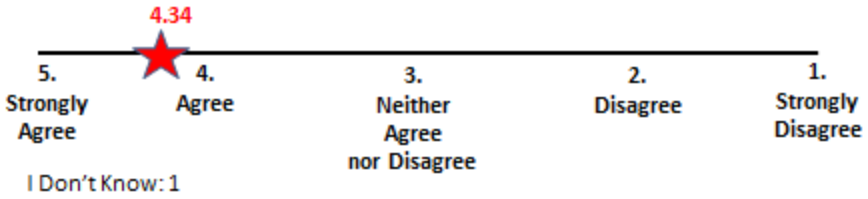
I Don't Know: 37

8. Employees in my organization who are found to have participated in fraudulent activities will be subject to appropriate consequences.



I Don't Know: 23

9. My organization places sufficient emphasis on the importance of integrity, ethical conduct, fairness and honesty in their dealings with employees, vendors, and other organizations.



I Don't Know: 1

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