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Defense Procurement: An Analysis of Contract Management Internal Controls

22 March 2015

Dr. Juanita M. Rendon, Lecturer

Dr. Rene G. Rendon, Associate Professor

Graduate School of Business & Public Policy

Naval Postgraduate School

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Abstract

In fiscal year 2014, the U.S. federal government obligated over $443 billion in contracts. Within the Department of Defense (DoD), over $283 billion were obligated in the execution of 1.3 million contract actions (USA Spending, 2015). Despite the critical importance of the DoD's contract management function, both the Government Accountability Office (GAO) and the DoD Inspector General (DoD IG) have reported problems in achieving successful procurement outcomes. The lack of trained personnel, capable processes, and effective internal controls results in the DoD having a higher level of vulnerability for procurement fraud (Rendon & Rendon, in press). Contracting officers, because of their pivotal position in the procurement process and their interface with both government officials and industry, are in a unique position to be on the front line for deterring and identifying procurement fraud. However, in order to be effective procurement fraud-fighters, contracting officers must be knowledgeable of both contracting processes and internal controls. The purpose of this research was to assess DoD contracting officers' knowledge of the DoD's contract management processes and related internal controls. Our research findings indicated contracting officers may have a possible knowledge deficiency in the areas of procurement internal controls and procurement fraud schemes. Based on the implications of these findings, recommendations are made to the assessed agency and the DoD.

Keywords:auditability, contract management, fraud, internal controls, procurement

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About the Authors

Juanita M. Rendon is a CPA and instructor at the Naval Postgraduate School (NPS). Ms. Rendon teaches auditing, finance, and accounting courses at NPS. She is a former IRS revenue agent. She is a member of the American Institute of Certified Public Accountants and the Association of Certified Fraud Examiners. She has published articles in the *Journal of Contract Management* and book chapters in *Cost Estimating and Contract Pricing* (2008) and in *Contract Administration* (2009) by Gregory A. Garrett. She has presented at the National Contract Management Association (NCMA) World Congress conferences as well as at NCMA's National Education Seminars and was the recipient of the 2008 NCMA Award for Excellence in Contract Management Research and Writing.

Juanita M. Rendon
Graduate School of Business & Public Policy
Naval Postgraduate School
Monterey, CA 93943-5000
Tel: (831) 656-2444
Fax: (831) 656-3407
E-mail: jmrendon@nps.edu

Rene G. Rendon is an associate professor at NPS, where he teaches defense acquisition courses. Prior to his appointment at NPS, he served for more than 22 years as an acquisition and contracting officer in the United States Air Force, retiring at the rank of lieutenant colonel. His Air Force career included assignments as a contracting officer for the Peacekeeper ICBM, Maverick Missile, and the F-22 Raptor. He was also the director of contracting for the Air Force's Space-Based Infrared satellite program and the Evolved Expendable Launch Vehicle rocket program.

Rene G. Rendon
Graduate School of Business & Public Policy
Naval Postgraduate School
Monterey, CA 93943-5000
Tel: (831) 656-3464
Fax: (831) 656-3407
E-mail: rgrendon@nps.edu

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Background

In fiscal year 2014, the U.S. federal government obligated over $443 billion in contracts. Within the Department of Defense (DoD), over $283 billion were obligated in the execution of 1.3 million contract actions (USA Spending, 2015). These contract actions were for the procurement of weapon systems, supplies, and services. Despite the critical importance of the DoD's contract management function, both the Government Accountability Office (GAO) and the DoD Inspector General (DoDIG) have reported problems in achieving successful procurement outcomes. The GAO has identified the lack of trained contracting personnel and the use of ill-suited contracting arrangements as some of the problems in DoD contract management (GAO, 2013). The DoD IG has identified numerous deficiencies in contract management processes as well as weakness in contract management internal controls (DoD, 2009, 2014). The lack of trained personnel, capable processes, and effective internal controls results in the DoD having a higher level of vulnerability for procurement fraud (Rendon & Rendon, in press). Past incidents of procurement fraud can be traced to incompetent personnel, incapable contracting processes, or ineffective internal controls (Tan, 2013). Contracting officers, because of their pivotal position in the procurement process and their interface with both government officials and industry, are in a unique position to be on the front line for deterring and identifying procurement fraud. However, in order to be effective procurement fraud-fighters, contracting officers must be knowledgeable of both contracting processes and internal controls.

The purpose of this research was to assess DoD contracting officers' knowledge of the DoD's contract management processes and related internal controls. Specifically, we focus on the following research questions:

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

We conduct this research by first developing and testing an assessment tool that can be used to assess the contracting officers' knowledge level of internal controls and procurement fraud and to assess their perceptions of procurement fraud within their organizations. We then deploy the web-based assessment tool to contracting officers within a major acquisition agency to conduct the assessment. Based on our research findings, we make recommendations to the agency for improving its procurement processes and internal controls. Our recommendations can be used

by the assessed agency as well as the DoD to improve contract management process capability, strengthen procurement internal controls, and to increase procurement fraud knowledge and awareness.

Our paper is divided into four sections. This first section provides the background and purpose of our research, as well as our specific research questions and the benefits of our research findings. The second section provides a brief literature review on auditability in public procurement to include a discussion on contract management processes and related internal controls, as well as common procurement fraud scheme categories. The literature review provides the foundation for the development of the assessment tool which is discussed in the third section. In the fourth section, we analyze our findings and discuss their implications to the assessed agency as well as the DoD. We conclude this report by providing recommendations to the agency and the DoD on improving contract management process capability, strengthening procurement internal controls, and increasing procurement fraud knowledge and awareness.

Literature Review

This section provides a brief literature review that serves as a foundation for our empirical study. We review academic journal articles, government reports, and previous research studies in the areas of auditability, contract management processes, and internal control components.

Auditability in Public Organizations

The literature on auditability reflects an organization's transformation in its governance and knowledge management capabilities. Power states, "Auditability is a condition of possibility of all inspection and auditing practices and also a mode of organizational transformation" (2007, p. 14). This organizational transformation occurs when data collection prentices and documentation systems are established, thus allowing organizations to be audited. (This is distinct from organizations conducting actual audits or inspections.) Audibility requires organizations to establish and actively manage an institutionally acceptable knowledge management system supporting its governance of processes and practices (Power, 1996, p. 289). Organizations' increased concern for risk management has resulted in an accompanying emphasis on auditability of internal controls (Power, 2007, p. 12).

Auditability is also reflected in an organization's governance structure for the management of procurement activities. The literature includes research supporting the importance of competent personnel (in terms of education, training, and experience) and competent organizations (in terms of capable processes) for ensuring the success of procurement projects (Frame, 1999), and the need for a renewed emphasis on strong internal controls as a response to the increase in

procurement fraud incidents (Rollins & Lanza, 2005). Finally, the literature also includes past research supporting governance structures in public sector agencies and the role procurement projects play in ensuring accountability, transparency, compliance, and consistency in delivery, value for money, and stakeholder engagement (Crawford & Helm, 2009).

Contract Management Processes

A common focus of theoretical research on contract management is the use of an agency theory lens (Jensen & Meckling, 1976). Agency theory, specifically the buyer–seller problem, is used to analyze the process of structuring contract agreements between the buyer (principal) and the seller (agent) for the performance of a service or the delivery of a product (Eisenhardt, 1989). Because of conflicting goals and asymmetrical information between the buyer and the seller, as well as the opportunistic behavior of both parties, contracts are used to govern the buyer and seller relationship. Structuring contracts using product, exchange, and governance rules allows both parties to align contract goals at the lowest cost. Product rules are used to establish product specifications or service requirements, and exchange rules specify the parties' rights and obligations, as well as contract period of performance, delivery schedule, and method of contractor payment. Governance rules are used to reward and sanction cooperative or defective behavior of both parties through the use of performance incentive or penalty clauses (Brown, Potoski, & Van Slyke, 2013).

The structuring of contracts follows the generally-accepted contract management phases of pre-award, award, and post-award (Rendon & Snider, 2008). The pre-award phase includes the procurement planning, solicitation planning, and solicitation processes discussed next.

Procurement planning involves the process of identifying which business needs can be best met by procuring products or services outside the organization. This process involves determining whether to procure, how to procure, what to procure, how much to procure, and when to procure. The procurement planning process includes the following activities:

a. conducting outsource analysis;
b. determining and defining the requirement (the supply or service to procure);
c. conducting market research and/or a pre-solicitation conference;
d. developing preliminary requirements documents such as work breakdown structures (WBS), statements of work (SOW), performance work statement (PWS);

e. developing preliminary budgets and cost estimates;

f. preliminary consideration of contract type and special contract terms and conditions; and

g. conducting risk analysis.

The solicitation planning process involves preparing the documents needed to support the solicitation. This process involves documenting program requirements and identifying potential sources. Solicitation planning includes the following activities:

a. determining the procurement method (sealed bids, negotiated proposals, etc.);

b. determining the contract type (fixed price versus cost);

c. developing the solicitation document (IFB, RFQ, or RFP);

d. determining proposal evaluation criteria and contract-award strategy;

e. structuring contract terms and conditions; and

f. finalizing solicitation WBS, SOW, or product or service descriptions.

Solicitation is the process of obtaining information (proposals) from the sellers on how project needs can be met. The solicitation process includes the following activities:

a. conducting advertising of the procurement opportunity;

b. conducting a pre-proposal conference, if required; and

c. developing and maintaining a qualified bidder's list.

The award phase includes the source selection process of receiving proposals and applying the proposal evaluation criteria to select a supplier. The source selection process includes evaluating proposals and conducting contract negotiations with the seller in an attempt to come to agreement on all aspects of the contract—including cost, schedule, performance, terms and conditions, and anything else related to the contracted effort. This source selection process includes the following activities:

a. applying evaluation criteria to the management, cost, and technical proposals;

b. negotiating with suppliers; and

c. executing the contract award strategy.

The post-award phase consists of the contract administration and contract closeout processes discussed next.

Contract administration is the process of ensuring that each party's performance meets the contractual requirements. The activities involved in contract administration will depend on the contract statement of work, contract type, and contract performance period. The contract administration process includes the following activities:

a. conducting a pre-performance conference;
b. monitoring the contractor's work results;
c. measuring contractor's performance; and
d. managing the contract change-control process.

Contract closeout/termination is the process of verifying that all administrative matters are concluded on a contract that is otherwise physically complete. A government contract can end in one of three ways. First, the contract can be successfully completed, allowed to run its full period of performance, and then closed out. Second, the contract can be terminated for the convenience of the government. Finally, the contract can be terminated for default. Regardless of how the contract ends, all contracts must be closed out. The contract closeout process includes the following activities:

a. processing of government property dispositions;
b. final acceptance of products or services;
c. final contractor payments; and
d. documentation of the contractor's final past-performance report.

The contract management processes previously discussed will only be as capable and effective as the internal controls used by the acquisition agency to manage and oversee those processes. The next section provides an overview of internal controls as applied to acquisition agencies.

Internal Controls

As discussed previously, having capable contracting management processes helps organizations become auditable. In addition to capable contracting processes, effective internal controls are important in order for organizations to become auditable.

In 1992, the Committee of Sponsoring Organizations (COSO), composed of the AICPA, IIA, FEI, and the AAA, established the Internal Control Integrated Framework, which includes five internal control components (COSO, 2013). In May of 2013, COSO updated its internal control integrated framework, which now includes 17 principles within the five components of internal control (COSO, 2013). In September 2014, the GAO updated its Standards for Internal Control for the Federal Government (Green Book; GAO, 2014). The five components of the framework are discussed in the following sections (COSO, 2013).

Control Environment. The control environment component of the framework entails the tone at the top. Management's integrity and ethical behavior sets the tone for the organization (COSO, 2013). A weak control environment can open the door to fraud, waste, and abuse (GAO, 2006). The effects of waste and abuse can be just as damaging as fraud to any organization in terms of loss of dollars, time, and personnel. In the case of government organizations, public trust could be compromised and public funds could be lost when the control environment is weak.

Risk Assessment. The risk assessment component of the framework calls for management to discuss what could go wrong within the organization and how to best mitigate any potential risks, including fraud risks (COSO, 2013).

Control Activities. The control activities component of the framework encompasses all of the control procedures that have been determined to be needed to make sure that the organization meets its goals and objectives (COSO, 2013). One example of a control activity is segregation of duties or separation of duties. No one person should be in charge of all the procedures within a process. This could lead to opportunities for unscrupulous people to commit fraud.

Information and Communication. The information and communication component of the framework includes the accounting system and the methods of internal and external communications within an organization (COSO, 2013).

Monitoring Activities. The monitoring activities component of the framework refers to making sure that the internal controls are being monitored. This ensures that the controls in place are being followed and are meeting the organizational goals set by management (COSO, 2013). If any controls need to be updated, changed, removed, or added, management can determine the best way to proceed. Monitoring activities are important to help ensure a continuous process of planning, implementing, reviewing, and adjusting controls.

Concerns by the GAO about control weaknesses within five areas of DoD contract management have led to giving DoD contract management the high risk designation since 1992 "due to the greater vulnerabilities to fraud, waste, and abuse, and mismanagement" (GAO, 2006, p. 2). Improper oversight of contracts and

material internal control weaknesses continue to be issues within the DOD (DoD IG, 2009). The five areas of contract management identified by the GAO as high risk are discussed next (GAO, 2006).

Sustained Senior Leadership. One area of concern is the tone at the top of acquisition senior leadership regarding lack of commitment to sound procurement practices. Ineffective internal controls within the contracting processes leave organizations vulnerable to contracting fraud, waste, and abuse. This control area pertains to the Control Environment component of the internal control framework.

Capable Acquisition Workforce. One of the three components of the auditability triangle includes competent personnel. A well-educated and experienced acquisition workforce is critical to the success of contract management within the DOD. The GAO found that the DOD reduced its acquisition workforce by 38 percent between 1989 and 2002, and additional experienced acquisition personnel are expected to leave the DOD within several years (GAO, 2006). With the increase in both contracting obligations and the number of contract actions, the demand for a capable acquisition workforce and an adequate number of acquisition personnel is mounting. This control area pertains to the Control Environment component of the internal control framework.

Adequate Pricing. The DOD's failure to use adequate pricing information for the appropriate contract award can leave it vulnerable to potential fraud, waste, and abuse (GAO, 2006). This control area pertains to the Information and Communication component of the internal control framework.

Appropriate Contracting Approaches and Techniques. The DOD's inappropriate methods of structuring and implementing award and incentive fees, which are designed to improve contractor performance as well as acquisition outcomes, can leave it vulnerable to potential fraud, waste, and abuse (GAO, 2006). This control area pertains to the Control Activities component of the internal control framework.

Sufficient Contract Surveillance. Ensuring adequate surveillance of contracts is crucial to the success of the contract. Therefore, if surveillance is considered an "other duty as assigned," it can be perceived as a low priority and not given the attention and focus necessary for the successful administration of a contract. The GAO and DODIG found the DOD had insufficient contract surveillance, which poses risks of overpaying contractors for goods and services. This control area pertains to the monitoring activities component of the internal control framework.

The previously discussed internal control components are integral to ensuring auditability in the acquisition agency's procurement and contracting processes. Any material weaknesses in the agency's internal control components can increase its vulnerability to procurement fraud. Although there are many different types of procurement fraud incidents, the majority of procurement fraud can be categorized in the following procurement fraud schemes.

Procurement Fraud Schemes

Reducing contract fraud, waste, and abuse should be the goal of any government organization, especially the DOD (GAO, 2006). Ineffective internal controls leave government organizations vulnerable to contract fraud, waste, and abuse, as shown in the many incidents of procurement fraudulent activity within the DOD and the federal government (Tan, 2013). While there are numerous kinds of procurement fraud, they can be classified into six categories, which are discussed next.

Procurement Fraud Scheme Categories

Procurement fraud schemes are classified into six distinct procurement fraud categories. As illustrated in Table 1, the six categories of procurement fraud schemes include collusion, bid rigging, conflict of interest, and billing/cost/pricing schemes, fraudulent purchases, and fraudulent representation.

Collusion. Specific types of fraud schemes included within the collusion category of fraud schemes are kickbacks, bribery, and deliberate split purchases. Kickbacks involve government officials receiving something of value such as money from a contractor for personal gain in exchange for providing a favor such as submitting false invoices. Bribery involves influencing someone's judgment in order to obtain favor, such as bribing a contracting officer in order to be awarded additional contracts. Split purchases are often seen in the government purchasing card program where purchases that generally would not meet the micro-purchase threshold of $3,000 are deliberately split into two or more purchase transactions to circumvent the contracting rules and regulations.

Bid Rigging. Bid rigging involves exploitation of the bidding process by falsifying information such as price competition, agency needs, and contract specifications with the intent to circumvent the standard bidding process. Government bid specifications purposely leaked to favored offerors feeds the bid rigging fraud scheme and creates an unfair advantage to others seeking government contracts (Wells, 2008).

Conflict of Interest. Conflicts of interest create problems for government officials who are in a position to make decisions that could be seen as not being in the best interest of the government. For example, a contracting officer who is reviewing a contract bid from a company in which he or she owns stock would be construed as a major conflict of interest.

Billing/Cost/Pricing Schemes. Billing, cost, or pricing type fraud schemes involve a misrepresentation of financial information as well as intentionally mischarging. For example, government losses are sometimes due to a contract's labor cost mischarging such as padding employee timecards and charging the government for the extra hours that were not worked by employees. Defective pricing, change order abuse, and co-mingling of contracts are also examples of cost and pricing schemes.

Fraudulent Purchases. Fraudulent purchases involve purchases made which are beyond the government requirements with the intent to defraud the government. An example of fraudulent purchases is when a purchase cardholder purchases electronic equipment for the personal use or with the intent to sell the equipment on e-bay for personal gain.

Fraudulent Representation. Fraudulent representation involves falsely and intentionally misrepresenting goods and services. Product substitution is an example of fraudulent representation as it usually involves intentionally providing defective or used parts instead of non-defective or new parts as required by a contract.

Table 1. Categories of Procurement Fraud Schemes
(Adopted from Rendon & Rendon, in press)

Categories of Procurement Fraud Schemes					
Collusion	**Conflict of Interest**	**Bid Rigging**	**Billing/Cost/Pricing Schemes**	**Fraudulent Purchases**	**Fraudulent Representation**
Bribes & Kickbacks	Conflict of Interest	Collusive Bidding by Contractors	Cost Mischarging	Purchases for Personal Use or Resale	Failure to Meet Contract Specifications
Split Purchases	Unjustified Sole Source Awards	Excluding Qualified Bidders	Defective Pricing	Unnecessary Purchases	Product Substitution
	Phantom Vendor	Leaking Bid Data	Change Order Abuse	Imprest Fund Abuse	
		Manipulations of Bids	Co-mingling of Contracts		
		Rigged Specifications	False, Inflated, or Duplicate Invoices		
		Unbalanced Bidding	False Statement and Claims		

Conceptual Framework

The auditability literature identifies the importance of competent procurement personnel, capable contract management processes, and effective procurement internal controls. These major facets of auditability are reflected in Figure 1, which presents our conceptual framework.

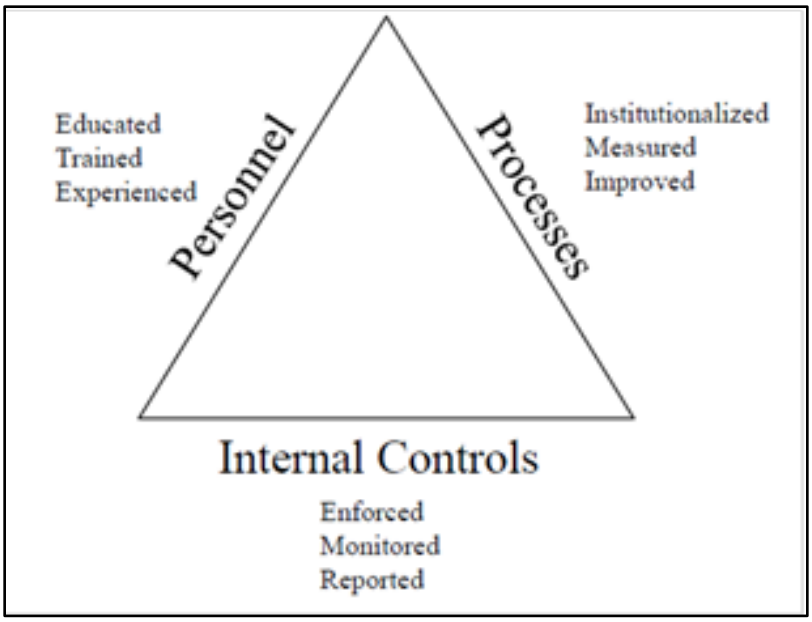

Figure 1. Auditability Triangle
(Rendon & Rendon, in press)

Our conceptual model shows that auditability in procurement agencies requires organizations to have competent people, capable processes, and effective internal controls. The acquisition workforce needs competent people that are educated, trained, and experienced in the complexities of government contracting. Past research has shown that many participants in the acquisition of services, especially at the installation/base level, are not members of the acquisition workforce. Thus, they may not be receiving the required education and training needed to perform their acquisition functions (GAO, 2002, 2011).

Acquisition organizations also need capable contract management processes. Process capability is measured in terms of processes that are fully-established, institutionalized, mandated, integrated with other organizational processes, periodically measured, and continuously improved. Past research using the Contract Management Maturity Model (CMMM) has shown that some acquisition organizations have less-than-capable contracting processes. These contracting processes lack process strength, management support, process measurement, and process improvement (Rendon, 2008, 2009, 2010, 2011).

Finally, acquisition organizations also need effective internal controls. Effective internal controls refers to the objective of enforcing internal control policies to ensure compliance with laws and regulations, monitoring procedures to assess enforcement, and reporting material weaknesses. The DoD IG reports that many of the procurement deficiencies they identified are the result of material internal control weaknesses in the procurement processes. Both GAO and DoD IG reports have indicated an ever-increasing concern about weak internal controls within the DoD's acquisition agencies. These types of internal control weaknesses increase the government's risk of jeopardizing the value for the public dollars spent on supplies and services (DoD IG 2009, 2014).

The lack of competent personnel, capable processes, and effective internal controls may be resulting in incidents of procurement fraud within the DoD and throughout the defense supply chain (Tan, 2013). Government contracting officers, because of their pivotal position interfacing with industry, should be the first line of defense for identifying procurement fraud red flags. However, identifying procurement fraud red flags require contracting officers to be knowledgeable of procurement internal controls. Thus, the purpose of this research is to assess DoD contracting officers' knowledge of the DoD's contract management processes and related internal controls. We conduct our research through the use of a web-based assessment tool. Our research methodology is discussed next.

Research Methodology

Our research methodlogy consisted of developing and testing a knowledge assessment tool that we used to assess contracting officers' knowledge, and the deployment of the assessment tool to the contracting agency. We discuss this methodlogy next.

Assessment Tool Development

We conduct this research by first developing and testing an assessment tool that can be used to assess the contracting officers' knowledge level of internal controls and procurement fraud and to assess their perceptions of procurement fraud within their organizations. With the assistance of our MBA student (Chang, 2013), we developed a web-based assessment tool consisting of 26 knowledge-based questions pertaining to contracting processes, internal control components, and procurement fraud schemes. These knowledge-based questions were developed using government procurement fraud sources such as the U.S. Agency for International Development (USAID, n.d.) and the Office of the Inspector General, U.S. General Services Administration (GSA), procurement fraud handbook (GSA OIG, 2012).

Figure 2 reflects the number of questions related to each phase of the contract management process, internal control component, and procurement fraud scheme.

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

Figure 2. Assessment Tool Items by Categories
(Chang, 2013)

The assessment tool also included 12 organization-based items related to the contracting officers' perceptions of internal controls within their organizations. These items were designed to determine if any aspects of the organizations' internal structure, processes, or culture made the organization more susceptible to fraudulent activity. These items were also designed to assess the contracting officers' perceptions of their organizations regarding fraud incidents. The organization-based items were adopted and modified from the Internal Control Survey developed by the New York State Internal Control Association (NYSICA, 2006).

Assessment Tool Deployment

The assessment tool was deployed using the Naval Postgraduate School online survey-hosting service LimeSurvey. The survey link was emailed to the contracting workforce and was made available for a three-week period. The survey respondents were contracting officers assigned to Army Mission Installation Contracting Command (MICC). This Army contracting agency is responsible for supporting the U.S. Army installations by contracting for office supplies, equipment, support services, and minor construction. In 2012, the MICC managed over $6.4

billion in contracts using a variety of contract mechanisms, ranging from the government purchase card to complex services contracts (Chang, 2013). The next section discusses our research findings and analyses.

Research Findings

Our research findings consisted of the analysis of the contracting officers' responses to the knowledge assessment questions, and the responses to the organization perception questions. We discuss these findings next.

Analysis of Knowledge Assessment Findings

The assessment tool was deployed in early April 2013 to a total eligible population of 1350 contract management professionals. The assessment tool was initiated by 146 respondents, and was completed by 99 respondents, resulting in a response rate of 7% (Chang, 2013).

The average score on the knowledge portion of the assessment tool was 63% correct of the 26 questions. Figures 3 through 6 reflect the average score based on employment category (civilian or military), experience level, DAWIA certification level, and warranted contracting officer status.

As can be seen in these figures, there is minimal difference in average scores between civilian and military contract management professionals. However, we do see some difference in average scores by experience and DAWIA levels. As contracting experience and DAWIA level increases, so does the average score on the knowledge assessment. Although warranted contracting officer scored higher than non-warranted contracts specialists, there is less difference in average scores between non-warranted and warranted contract management professionals.

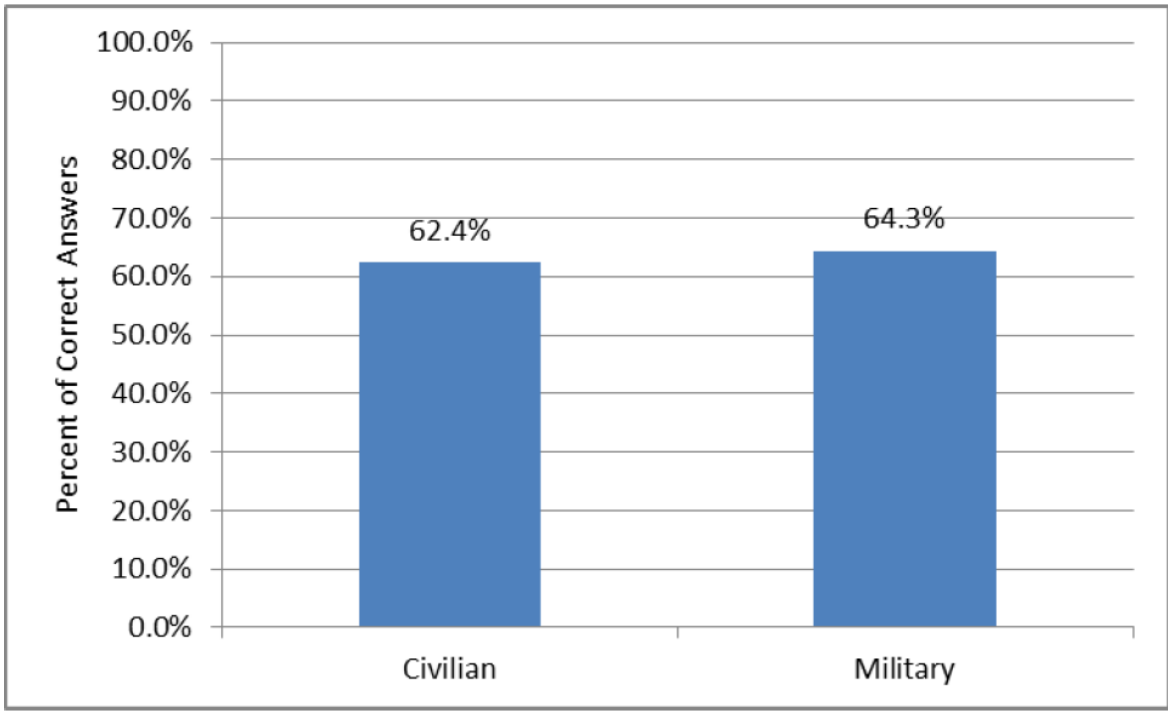

Figure 3. Average Score by Employment Status
(Chang, 2013)

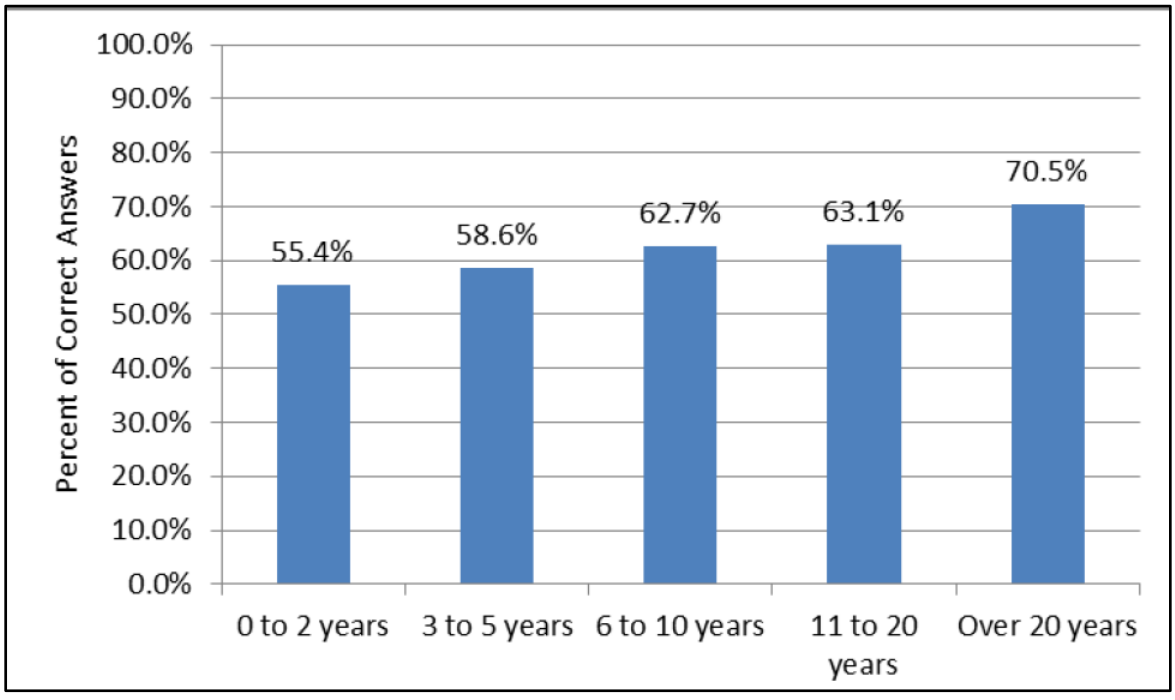

Figure 4. Average Score by Experience
(Chang, 2013)

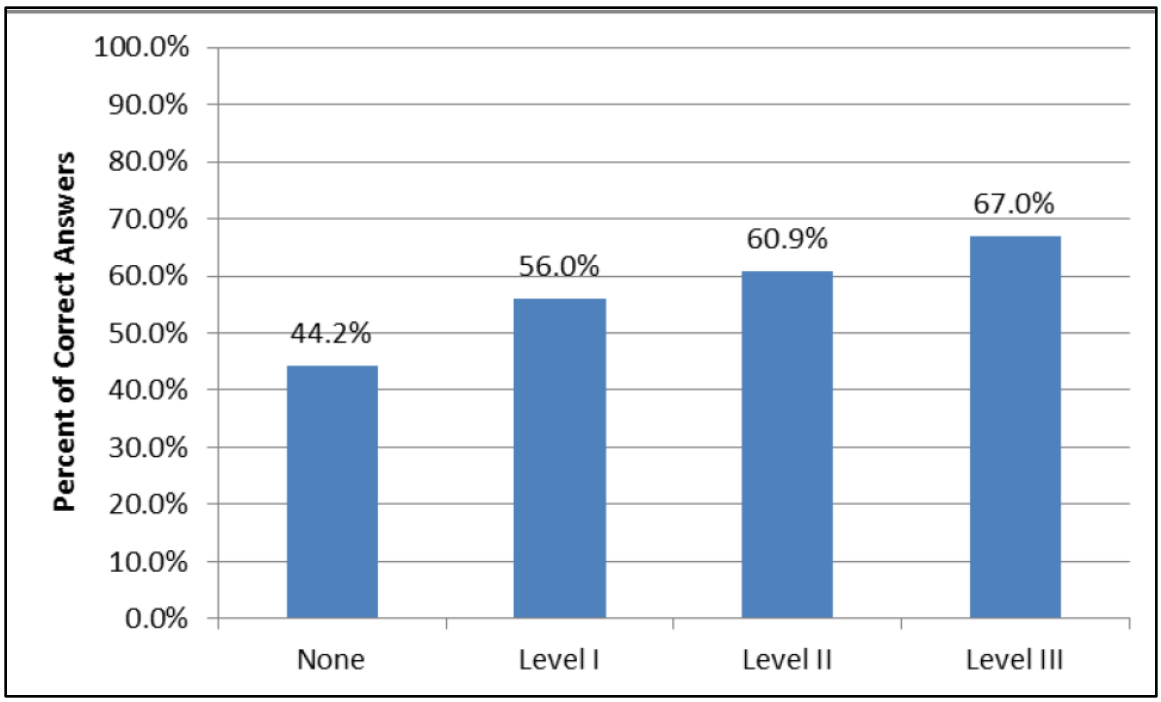

Figure 5. Average Score by DAWIA Level
(Chang, 2013)

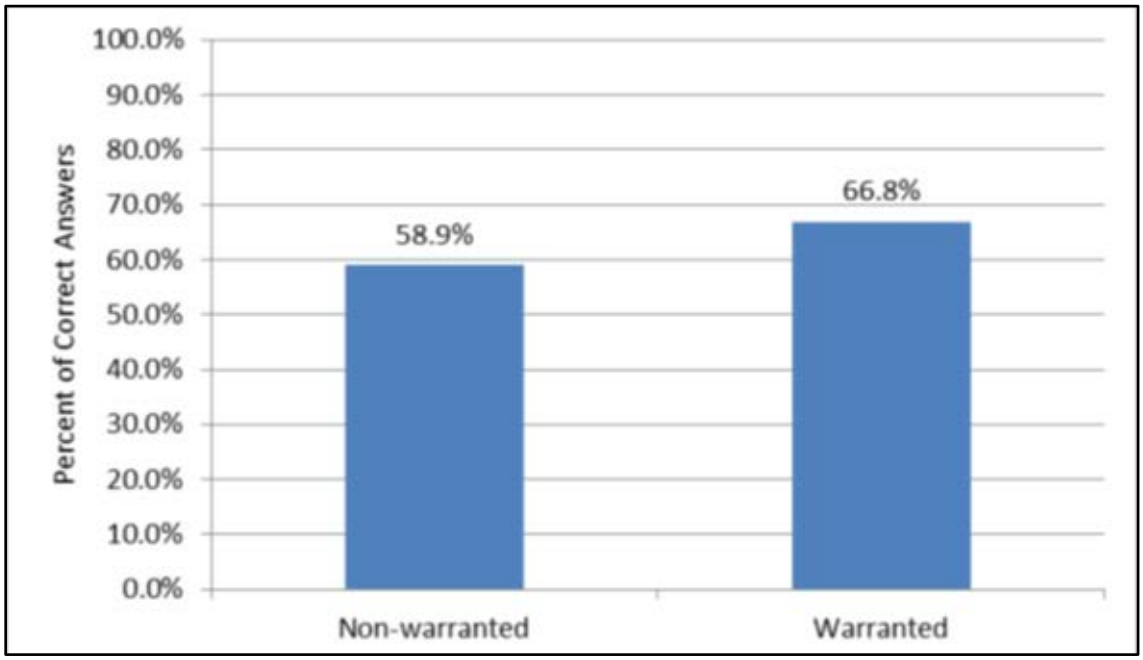

Figure 6. Average Score by Warrant Status
(Chang, 2013)

As previously stated, each knowledge assessment item was related to contract management processes, internal control components, and procurement fraud schemes. Figures 7 through 9 reflect the average score based on each of these areas.

As can be seen in these figures, there is variation in the average knowledge assessment score among these three areas. From the perspective of the contract management process, assessment knowledge items related to the procurement planning process had the highest average score, compared to items related to contract closeout, which had the lowest score. From the perspective of the internal control components, assessment knowledge items related to the risk assessment component had the highest average score, compared to items related to information and communication, which had the lowest score. From the perspective of procurement fraud schemes, assessment knowledge items related to bid rigging scheme had the highest average score, compared to items related to billing/cost/pricing schemes, which had the lowest score.

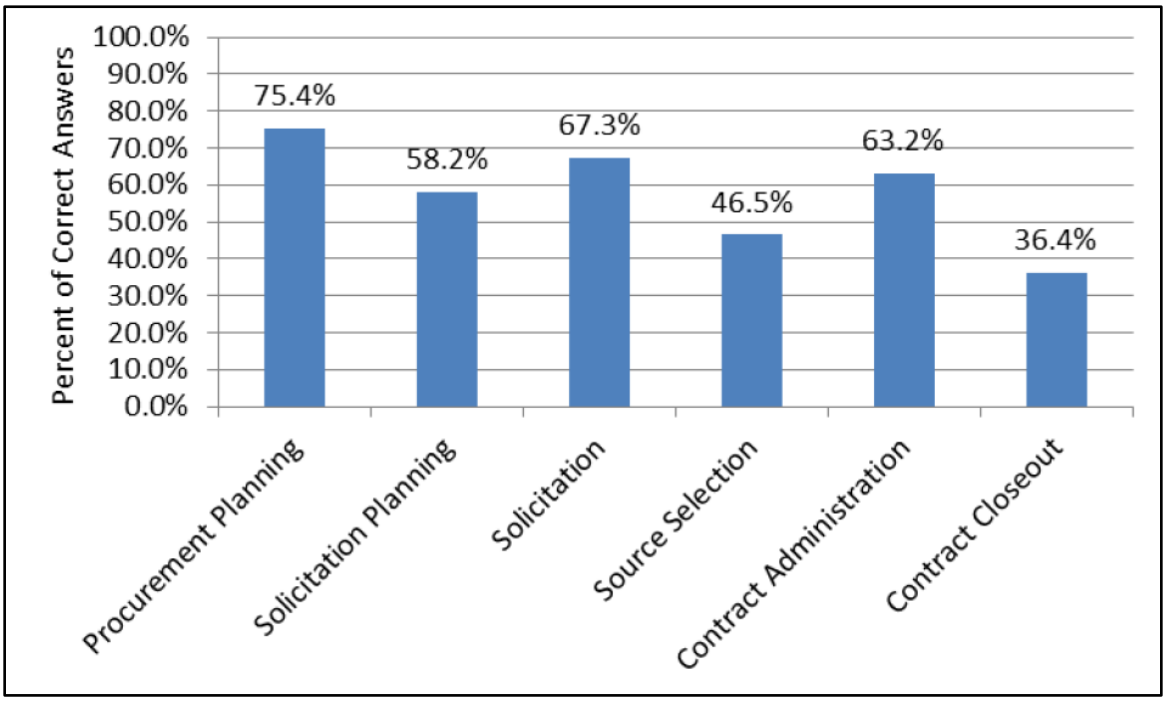

Figure 7. Average Score by Contract Management Process
(Chang, 2013)

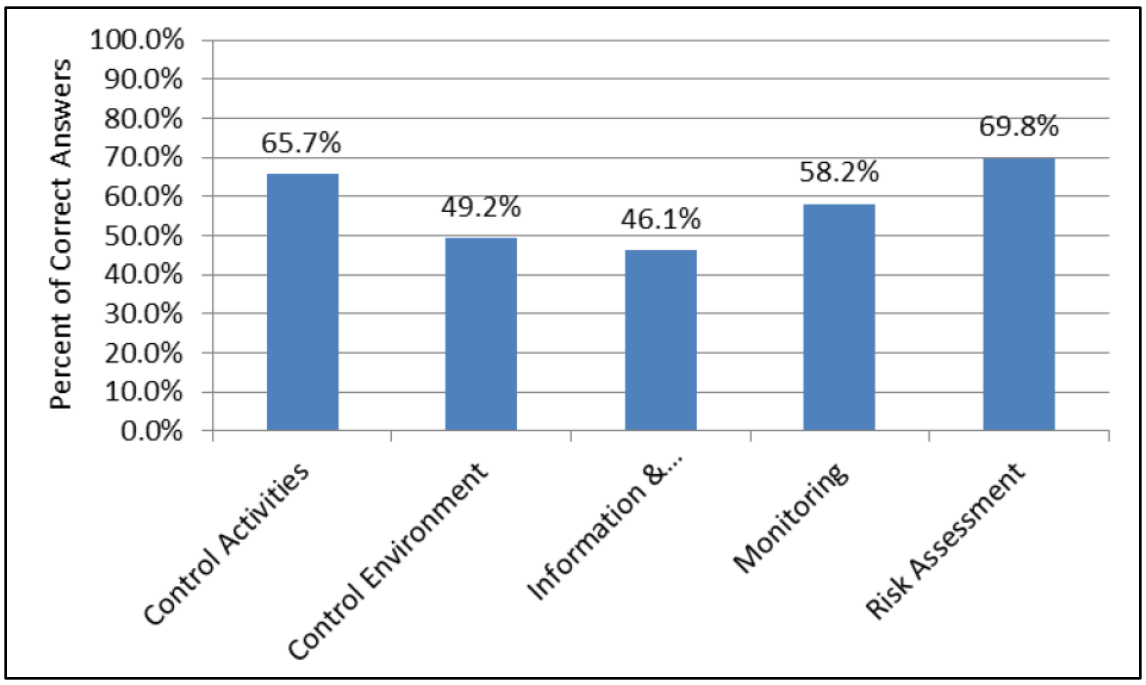

Figure 8. Average Score by Internal Control Component
(Chang, 2013)

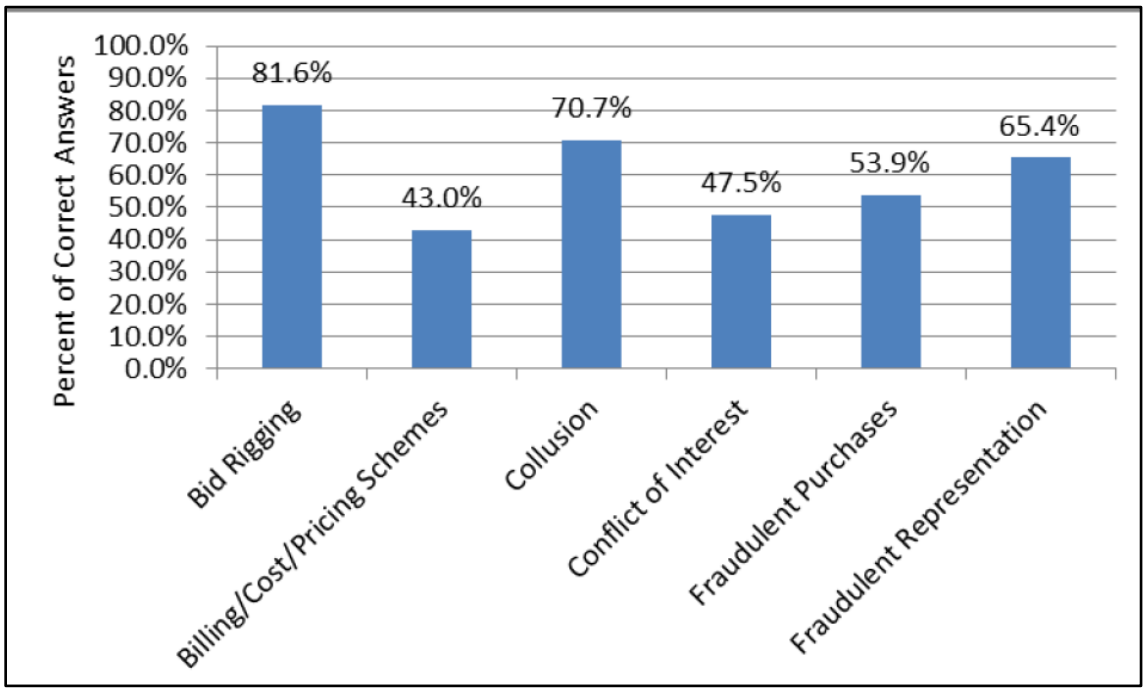

Figure 9. Average Score by Procurement Fraud Scheme
(Chang, 2013)

Analysis of Organization Perception Findings

The assessment tool also included items related to perceptions of organization's vulnerability to procurement fraud and perceptions of organizations' internal controls. Three of these questions asked about perceptions of the organizations' vulnerability to procurement fraud in terms of contract management process, internal control component, and procurement fraud schemes. Figures 10–12 reflect the responses to these items.

As can be seen in these figures, when asked which contract management process is most vulnerable to fraud in their organization, those surveyed selected the procurement planning process the most often (20%) and contract closeout was selected the least often (0%). Approximately 11% responded that they did not know, and 34% of the respondents stated they did not suspect fraud.

When asked which internal control component is most vulnerable to fraud in their organization, the information and communication component was selected the most often (13%) and control environment was selected the least often (4%). Approximately 17% responded that they did not know, and 38% of the respondents stated they did not suspect fraud.

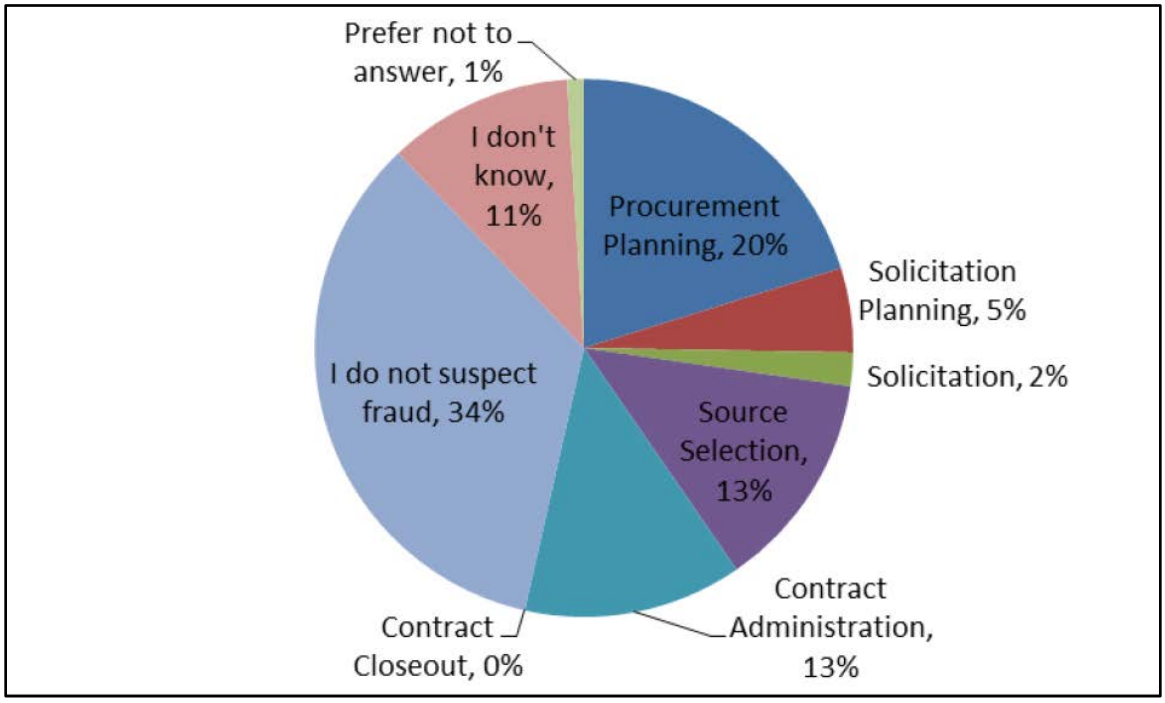

Figure 10. Percent of Responses to Contract Management Phase Item
(Chang, 2013)

When asked to which procurement fraud scheme they perceived their organization was most susceptible, those surveyed selected conflict of interest the most often (13%), and fraudulent representation was selected the least often (0%). Approximately 13% responded that they did not know, and 53% of the respondents stated they did not suspect fraud.

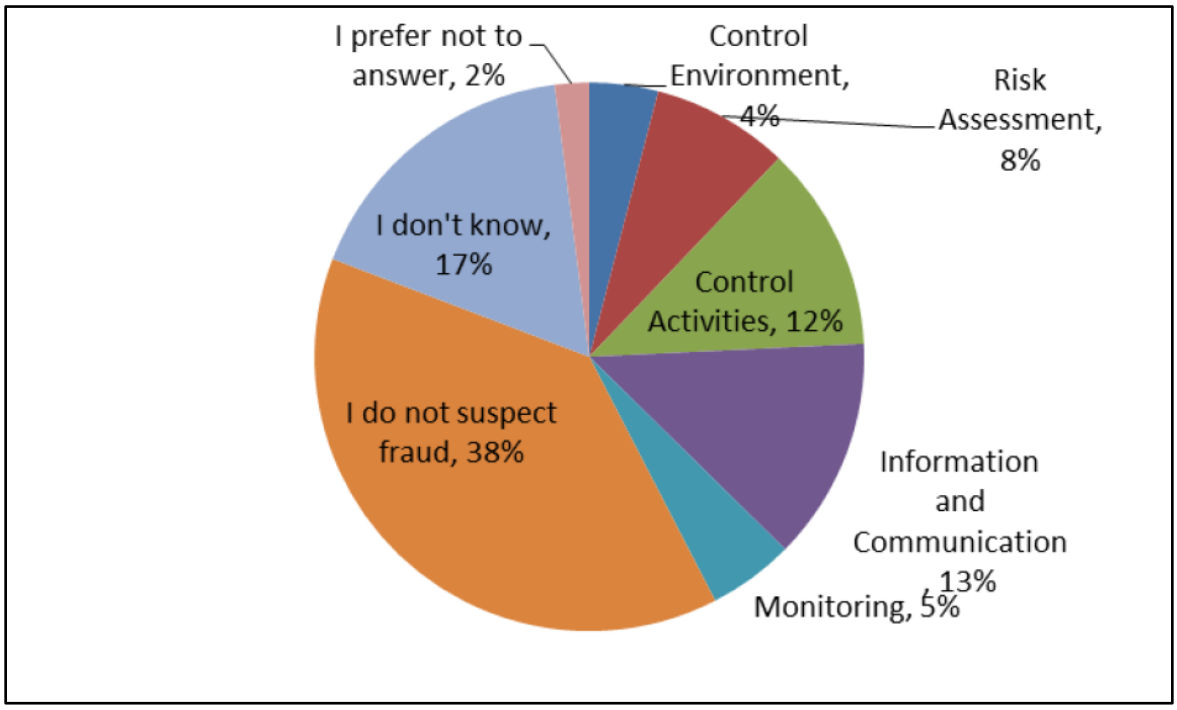

Figure 11. Percent of Responses to Internal Control Component Item
(Chang, 2013)

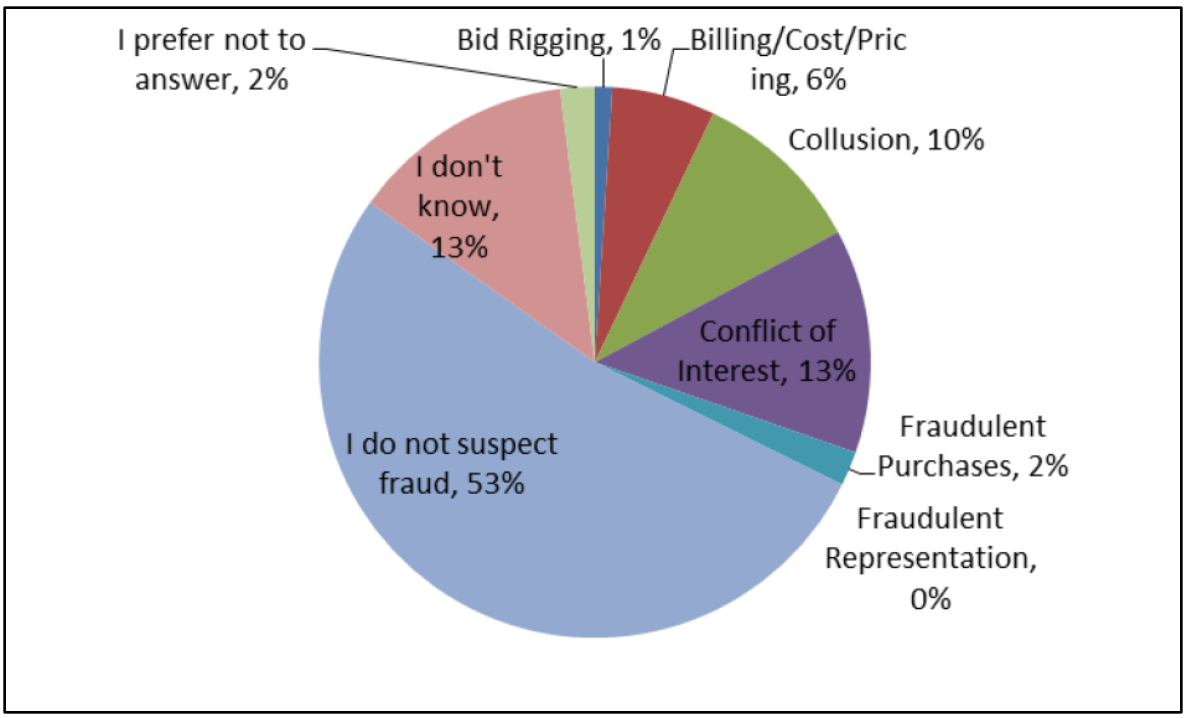

Figure 12. Percent of Responses to Procurement Fraud Scheme Item
(Chang, 2013)

Nine of the organization questions were related to the contracting officers' perceptions of their organization's internal controls. These items were designed to determine if any aspects of the organizations' internal structure, processes, or culture made the organization more susceptible to fraudulent activity. The Likert scale responses ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). The average response to all of the nine questions was 4.17, and the range of responses was from 3.84 to 4.77. The lowest response (3.84) was for the item "Instances of reported suspected fraudulent or suspicious activity have been adequately investigated in my organization." Approximately thirty-seven (37) respondents answered "I Don't Know." The highest response (4.77) was for the item "I would report fraudulent or suspicious activity if I saw or suspected it." One (1) respondent answered "I Don't Know." Appendix A provides a listing of these items as well as the average Likert scale response. The next section discusses the implications of our findings.

Implications of Findings

The results of both the knowledge assessment and the organization perception assessment have some interesting implications. The average score on the knowledge assessment varied by contract management process, internal control component, and procurement fraud scheme. The contracting officers' average score on the knowledge assessment (63%) reflects a possible knowledge deficiency in

procurement internal controls. Using traditional college grading protocol, this score would be converted to a grade of D. This finding, along with the average response to the organization perception item, "I have adequate knowledge of contracting fraud schemes to perform my duties" of 3.9 (Appendix A, Item 6), suggests that perhaps the contracting officers are overly-optimistic in self-assessing their knowledge of procurement fraud schemes.

Additionally, a significant percentage of the respondents indicated that "I do not suspect fraud" in relation to the organization's contracting processes (34%), internal control components (38%), and procurement fraud scheme susceptibility (53%). These findings, along with the low scoring knowledge assessment, may indicate that although the majority of contracting officers don't suspect fraud in their organizations, they also don't have a sufficient working knowledge of procurement fraud. The contracting officers' limited knowledge of procurement fraud and their perception that their organization is not susceptible to fraud may reveal that the organization could in fact be vulnerable to some form of procurement fraud.

Recommendations

The results of the knowledge-based assessment indicated that, although the average score was 63%, the contracting officers' knowledge of contracting processes, internal controls, and procurement fraud schemes increased as years of experience and DAWIA certification level increases. Recent research shows that the DAWIA required courses for contracting certification do not include a mandatory fraud training or awareness course (Castillo & Flannigan, 2014). Our first recommendation is for the Defense Acquisition University (DAU) to incorporate coverage of internal controls and procurement fraud schemes in the mandatory contracting curriculum.

Our final recommendation is to further explore the organization's information and communication internal control component. This was the internal control component with the lowest score on the knowledge assessment, as well as the component chosen as most vulnerable to procurement fraud in the organization. Perhaps this organization should apply additional emphasis, for example training and visibility, in this internal control component. This may increase the workforces' knowledge level of this aspect of their organization's internal controls and decrease their perception of this area of fraud vulnerability.

Conclusion

Contract management in the Department of Defense is a critical government function. Yet despite its significant importance, the DoD is still plagued with deficiencies in its contracting processes and internal controls. Auditability theory states that an organization must have competent personnel, capable processes, and effective internal controls to ensure proper organizational governance. The lack of competent personnel, capable processes, and effective internal controls may result in organizations being more vulnerable to fraud. The purpose of this research was to assess DoD contracting officers' knowledge levels of procurement fraud schemes as related to contract management processes, internal control components, and procurement fraud scheme categories. We also investigated the contracting workforces' perceptions of their organization's vulnerability to procurement fraud.

Our research findings indicated contracting officers may have a possible knowledge deficiency in the area of procurement internal controls. Additionally, our findings indicate that perhaps contracting officers are overly optimistic in self-assessing their knowledge of procurement fraud schemes. Finally, we also conclude that the contracting officers' limited knowledge of procurement fraud and their perception that their organization is not susceptible to fraud may reveal that the organization could in fact be vulnerable to some form of procurement fraud.

Based on these findings, we recommend that the DAU incorporate coverage of internal controls and procurement fraud schemes in the mandatory contracting curriculum. We also recommend that the assessed organization apply additional emphasis on its information and communication internal control component to increase the workforces' knowledge level of this aspect of their organization's internal controls and decrease their perception of this area's vulnerability to fraud.

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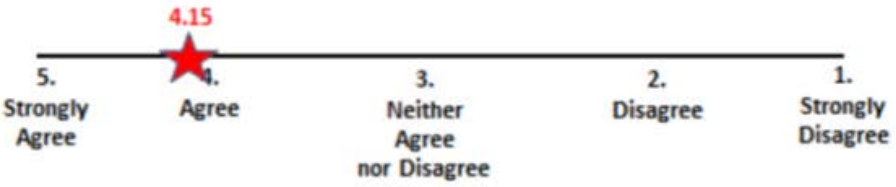
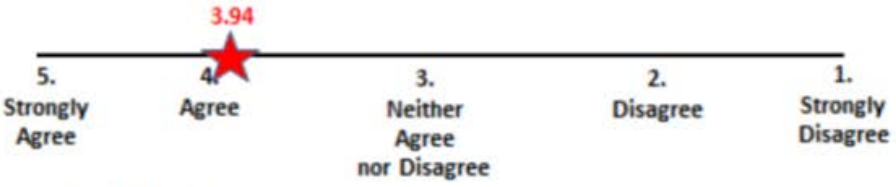
Appendix

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



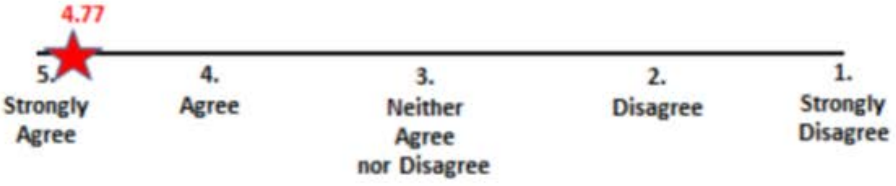
I Prefer Not to Answer: 1

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



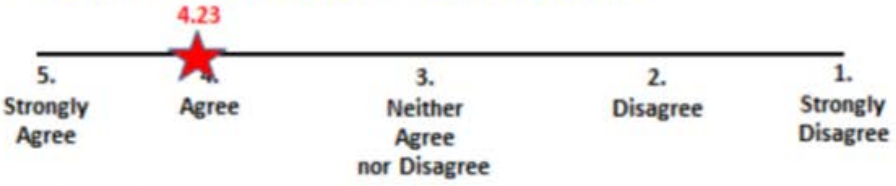
I Don't Know: 9

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



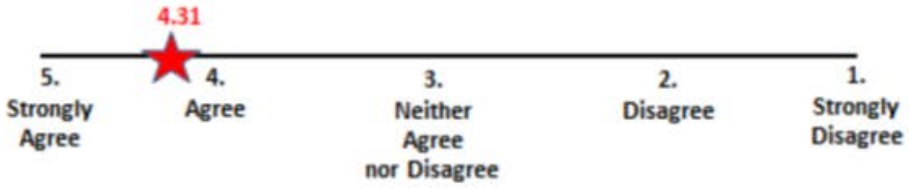
I Don't Know: 1

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



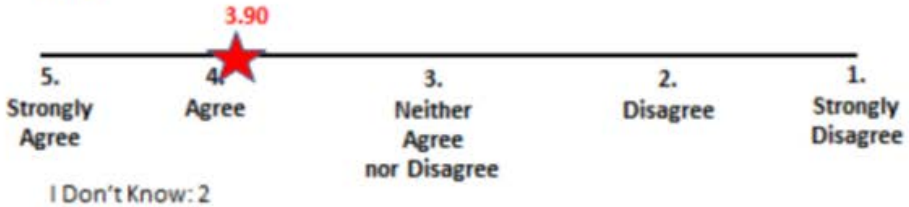
I Don't Know: 3

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



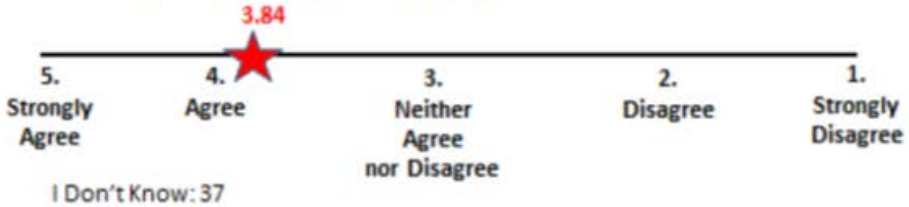
I Don't Know: 3

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



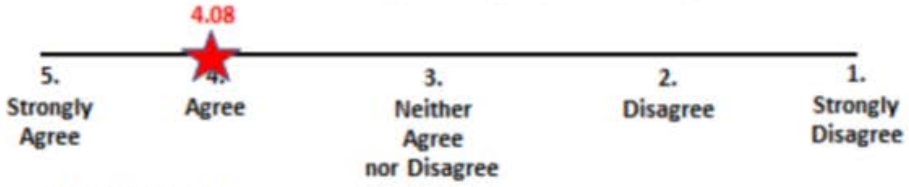
I Don't Know: 2

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



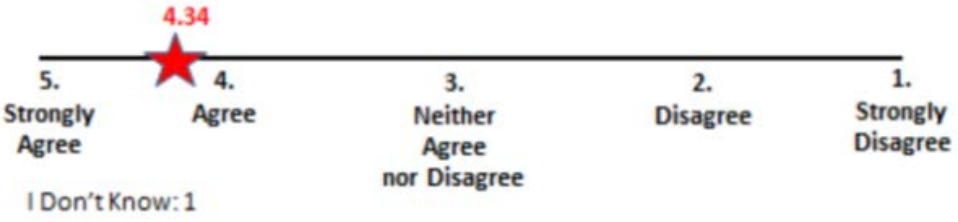
I Don't Know: 37

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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