NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL PROJECT

"FUNNY MONEY": AN ANALYSIS OF OPTAR FRAUD, WASTE, AND ABUSE IN THE U.S. NAVY

June 2022

By: **Gamalier Riverafontan**
David A. Dyal III

Advisor: **Juanita M. Rendon**
Co-Advisor: **Chong Wang**

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			*Form Approved OMB No. 0704-0188*

1. AGENCY USE ONLY *(Leave blank)*	**2. REPORT DATE** June 2022	**3. REPORT TYPE AND DATES COVERED** MBA Professional Project

4. TITLE AND SUBTITLE
"FUNNY MONEY": AN ANALYSIS OF OPTAR FRAUD, WASTE, AND ABUSE IN THE U.S. NAVY

5. FUNDING NUMBERS

6. AUTHOR(S) Gamalier Riverafontan and David A. Dyal III

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Naval Postgraduate School
Monterey, CA 93943-5000

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
N/A

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for public release. Distribution is unlimited.

12b. DISTRIBUTION CODE
A

13. ABSTRACT (maximum 200 words)

Operational target funds (OPTAR) are utilized by U.S. naval commands to purchase repair parts and consumable products (e.g., cleaning supplies, office products, etc.). These funds represent approximately six percent of the Department of the Navy's budget issued by Congress to the Department of Defense on an annual basis. OPTAR funds are managed by U.S. Navy Logistics Specialists and Supply Corps Officers. Possible gaps in the oversight of these funds may be present. These gaps in oversight could provide opportunities for potential fraud, waste, and abuse.

The purpose of this research was to determine Navy Supply Corps Officers' knowledge of fraud, waste, and abuse as it applies to OPTAR funds, and to assess their perceptions of the sufficiency of the Navy's training, internal controls, and audit processes related to those OPTAR funds. The data used for this research was obtained through the deployment of an online survey to Naval Postgraduate School (NPS) students who are United States Navy Supply Corps Officers. Findings from this research identified issues differentiating between abuse and fraud schemes, a lack of training and knowledge of services and programs available to Navy Supply Corps Officers, as well as gaps in training, internal controls, and audit processes that would help detect, deter, and prevent fraud, waste, and abuse of OPTAR funds. Based on the research findings, recommendations were provided.

14. SUBJECT TERMS
Navy OPTAR, fraud, waste, abuse, training, internal controls, auditability theory

15. NUMBER OF PAGES
141

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	**18. SECURITY CLASSIFICATION OF THIS PAGE**	**19. SECURITY CLASSIFICATION OF ABSTRACT**	**20. LIMITATION OF ABSTRACT**
Unclassified	Unclassified	Unclassified	UU

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

"FUNNY MONEY": AN ANALYSIS OF OPTAR FRAUD, WASTE, AND ABUSE IN THE U.S. NAVY

Gamalier Riverafontan, Lieutenant Commander, United States Navy
David A. Dyal III, Lieutenant Commander, United States Navy

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

from the

NAVAL POSTGRADUATE SCHOOL
June 2022

Approved by: Juanita M. Rendon
Advisor

Chong Wang
Co-Advisor

Amilcar A. Menichini
Academic Associate, Department of Defense Management

THIS PAGE INTENTIONALLY LEFT BLANK

“FUNNY MONEY”: AN ANALYSIS OF OPTAR FRAUD, WASTE, AND ABUSE IN THE U.S. NAVY

ABSTRACT

Operational target funds (OPTAR) are utilized by U.S. naval commands to purchase repair parts and consumable products (e.g., cleaning supplies, office products, etc.). These funds represent approximately six percent of the Department of the Navy’s budget issued by Congress to the Department of Defense on an annual basis. OPTAR funds are managed by U.S. Navy Logistics Specialists and Supply Corps Officers. Possible gaps in the oversight of these funds may be present. These gaps in oversight could provide opportunities for potential fraud, waste, and abuse.

The purpose of this research was to determine Navy Supply Corps Officers’ knowledge of fraud, waste, and abuse as it applies to OPTAR funds, and to assess their perceptions of the sufficiency of the Navy’s training, internal controls, and audit processes related to those OPTAR funds. The data used for this research was obtained through the deployment of an online survey to Naval Postgraduate School (NPS) students who are United States Navy Supply Corps Officers. Findings from this research identified issues differentiating between abuse and fraud schemes, a lack of training and knowledge of services and programs available to Navy Supply Corps Officers, as well as gaps in training, internal controls, and audit processes that would help detect, deter, and prevent fraud, waste, and abuse of OPTAR funds. Based on the research findings, recommendations were provided.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I. INTRODUCTION....1
A. BACKGROUND....1
B. PURPOSE OF RESEARCH....2
C. RESEARCH QUESTIONS....2
D. METHODOLOGY....3
E. IMPORTANCE OF RESEARCH....3
F. ORGANIZATION OF REPORT....4
G. SUMMARY....5

II. LITERATURE REVIEW....7
A. INTRODUCTION....7
B. OPERATIONAL TARGET FUNDS (OPTAR)....7
C. FRAUD....10
D. WASTE....13
E. ABUSE....14
F. AUDITABILITY THEORY....15
G. TRAINING OF PERSONNEL....17
1. Logistics Specialist....18
2. Supply Corps Officer....20
3. Afloat Training Group....22
H. INTERNAL CONTROLS....23
I. FINANCIAL MANAGEMENT AND AUDIT PROCESSES....30
1. Obligation and De-Obligation of Appropriated Funds....30
2. Financial Reports....32
3. Difference Listing....34
J. SERVICES AND PROGRAMS FOR FINANCIAL MANAGERS....35
1. Navy Tactical Command Support System....35
2. Continuous Monitoring Program (CMP)....38
3. Navy Enterprise Resource Planning....39
4. Command Financial Management System (CFMS)....39
5. Standard Accounting, Budgeting, and Reporting System (SABRS)....40
6. NAVSUP One Touch Support System....40
7. Haystack....41
8. Defense Logistics Agency....42
9. General Services Administration (GSA)....43

10. NAVSUP Weapon Systems Support 44
K. SUMMARY 45

III. METHODOLOGY 47
A. INTRODUCTION....47
B. DEVELOPMENT OF THE SURVEY....47
C. SURVEY DEPLOYMENT 48
D. DATA ANALYSIS METHOD....49
E. SUMMARY 49

IV. FINDINGS, ANALYSIS, IMPLICATIONS, AND RECOMMENDATIONS....51
A. INTRODUCTION....51
B. FINDINGS....51
1. Survey Response....51
2. Demographics....51
3. Level of Knowledge (LOK) Questions 53
4. Organizational Perceptions....61
5. Services and Programs 79
C. ANALYSIS OF RESEARCH RELATED TO THE RESEARCH QUESTIONS 90
D. IMPLICATIONS 102
E. RECOMMENDATIONS....104
1. Require Annual Fraud, Waste, and Abuse Training 104
2. Include Financial Manager Training Phase for Enlisted Personnel....104
3. Incorporate Audit and Internal Controls Training in Logistics Specialist and Repair Parts Petty Officer Training Plans 104
4. FIAR Training Needed 105
F. SUMMARY 105

V. SUMMARY, CONCLUSIONS, AND AREAS FOR FURTHER RESEARCH 107

APPENDIX. LEVEL OF KNOWLEDGE QUESTIONS 111

LIST OF REFERENCES....113

INITIAL DISTRIBUTION LIST 119

LIST OF FIGURES

Figure 1. FY22 DON Budget by Appropriation Group. Source: Abott (2021). 8

Figure 2. The Fraud Triangle. Source: Wells (2005). 11

Figure 3. The Fraud Diamond. Source: Wolfe and Hermanson (2004). 12

Figure 4. The Fraud Pentagon. Source: Marks (2020). 12

Figure 5. Auditability Triangle. Source: Rendon & Rendon (2015, p. 716). 16

Figure 6. Relationship of Objectives and Components. Source: COSO (2013, p. 6). 24

Figure 7. Seventeen Principles of Internal Controls. Source: GAO (2014, p. 9). 28

Figure 8. Demographics Question 1 of 3: How many years have you been in the Navy? 52

Figure 9. Demographics Question 2 of 3: How many years of operational target (OPTAR) funds management experience do you have? 53

Figure 10. FWA LOK - Fraud Question 1 of 3: Distribution of Participant Responses 55

Figure 11. FWA LOK - Fraud Question 2 of 3: Distribution of Participant Responses 55

Figure 12. FWA LOK - Fraud Question 3 of 3: Distribution of Participant Responses 56

Figure 13. FWA LOK - Abuse Question 1 of 2: Distribution of Participant Responses 57

Figure 14. FWA LOK - Abuse Question 2 of 2: Distribution of Participant Responses 57

Figure 15. FWA LOK - Proper Purchase Question 1 of 2: Distribution of Participant Responses 58

Figure 16. FWA LOK - Proper Purchase Question 2 of 2: Distribution of Participant Responses 59

Figure 17. LOK, Training, Internal Controls, and Audit Processes Question 1 of 2: What is a reasonable way to minimize potential of FWA in your organization? 60

Figure 18. LOK, Training, Internal Controls, and Audit Processes Question 2 of 2: Items ordered that could potentially be for personal use or have resale value should most carefully be scrutinized when they do which of the following? Source: Chang (2013). 61

Figure 19. Organizational FWA - Distribution of Participants' Perceptions of Command Susceptibility to FWA 63

Figure 20. Organizational Training – Participant Perceptions of Training Sufficiency Regarding FWA for Leading LSs 64

Figure 21. Organizational Training - Participant Perceptions of Training Sufficiency Regarding Identifying FWA for LSs 65

Figure 22. Organizational Training - Distribution of Participant Perceptions of Incorporating Internal Controls in RPPO Training Plans 69

Figure 23. Organizational Training - Distribution of Participants' Perceptions of Incorporating Audit Processes in RPPO Training Plans 70

Figure 24. Organizational IC - Distribution of Participant Perceptions of Knowing How to Report FWA. Source: Chang (2013). 71

Figure 25. Organizational IC - Distribution of Participant Perceptions of Sufficiency of Organization Investigating FWA and Holding Violators Accountable. Source: Chang (2013). 72

Figure 26. Organizational IC - Distribution of Participant Perceptions of Sufficiency of Organization Emphasizing Integrity, Ethical Conduct, Fairness and Honesty in Dealing with Fellow Sailors, Vendors/ Suppliers, and Other Organizations. Source: Chang (2013). 73

Figure 27. Organizational IC - Distribution of Participant Perceptions of Sufficiency of Clear Lines of Authority and Responsibility in the Organization. Source: Chang (2013). 74

Figure 28. Organizational IC - Distribution of Participants Who Say They Would Report FWA if Suspected. Source: Chang (2013). 74

Figure 29. Organizational IC – Perceptions of the Most Vulnerable IC Component in the Organization 75

Figure 30. Organizational Audit - Distribution of Participants Who Say They Are Regularly Audited by Internal and External Sources. Source: Chang (2013). 77

Figure 31. FIAR – Guidance is Sufficient to Detect/Deter OPTAR Fraud. Source: Chang (2013). 100

Figure 32. FIAR – Guidance is Sufficient to Detect/Deter OPTAR Waste. Source: Chang (2013). 100

Figure 33. FIAR – Guidance is Sufficient to Detect/Deter OPTAR Abuse. Source: Chang (2013). 101

Figure 34. FIAR – Guidance has Helped Understanding of Internal Controls for Effective OPTAR Utilization. Source: Chang (2013). 101

Figure 35. FIAR – Guidance has Helped Understanding of Audit Processes for Effective OPTAR Utilization. Source: Chang (2013). 102

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1. Breakdown of LOK Questions....54

Table 2. Types of Organizational Perceptions Questions....62

Table 3. Organizational FWA - Participant Perceptions of FWA Level of Knowledge....63

Table 4. Organizational Training – Participants' Perceptions of the Sufficiency of Internal Control (IC) and Audit Processes Training of LSs....66

Table 5. Organizational Training – Participants' Perceptions of the Sufficiency of Internal Controls and Audit Processes in LS Training Plans....67

Table 6. Organizational Training – Participants' Perceptions of LS FWA Training Incorporated in Training Plans....68

Table 7. Organizational Training – Participants' Perceptions of RPPO FWA Training Incorporated in Training Plans....69

Table 8. Organizational IC - Participant Perceptions of Internal Controls Detecting Attempts at Changing Nomenclatures When Ordering Products....76

Table 9. Organizational Audit – Participant Perceptions that Financial Improvement and Audit Remediation (FIAR) Guidance is Sufficient in Detecting/Deterring OPTAR FWA and Helped their Understanding of Internal Controls and Auditability Processes....79

Table 10. Participant Familiarity with Services and Programs....82

Table 11. Participant Services and Programs Training Received....86

Table 12. Participant Services and Programs Frequency of Use....89

Table 13. Analysis of FWA LOK vs. Perceptions of FWA LOK....91

Table 14. FWA LOK Vs. Demographics - Level of Knowledge by Total Years of Experience in the Navy....92

Table 15. FWA LOK Vs. Demographics - Level of Knowledge by OPTAR Years of Experience....93

Table 16. Analysis of the Sufficiency of Training for Supply Officers, Leading LSs, and Junior LSs 95

Table 17. Perceptions of the Sufficiency of Training Received for Services and Programs 96

Table 18. Internal Controls Included in Training Plans for LSs and RPPOs.....98

Table 19. Audit Processes Included in Training Plans for LSs and RPPOs 99

LIST OF ACRONYMS AND ABBREVIATIONS

3MC	3M System Coordinator
ATG	Afloat Training Group
APL	Allowance Parts Listing
BOR	Budget OPTAR Report
BQC	Basic Qualification Course
CAC	Common Access Card
CFMS	Command Financial Management System
CMP	Continuous Monitoring Program
CNIC	Commander Navy Installations Command
COSAL	Coordinated Shipboard Allowance List
COTS	Commercial Off the Shelf
CWO	Chief Warrant Officer
DAAS	Defense Automated Addressing System
DAF	Department of the Air Force
DFAS	Defense Finance Accounting Service
DIVO	Division Officer
DL	Difference Listing
DLA	Defense Logistics Agency
DLR	Depot Level Repairable
DOA	Department of the Army
DOD	Department of Defense
DON	Department of the Navy
DRMO	Defense Reutilization Marketing Office
EMRM	Equipment Maintenance Related Material
FEDLOG	Federal Logistics
FIAR	Financial Improvement and Audit Remediation
FLC	Fleet Logistic Center
FRTP	Fleet Readiness Training Plan
FSM	Food Service Management
FWA	Fraud, Waste, and Abuse

GAO	Government Accountability Office
GCPC	Government Commercial Purchase Card
GSA	General Services Administration
HAZMAT	Hazardous Materials
HME	Hull, Mechanical, and Electrical
IDIQ	Indefinite Delivery Indefinite Quantity
IDTC	Intermediate Deployment Training Cycle
IRB	Institutional Review Board
LDO	Limited Duty Officer
LS	Logistics Specialist
MARMC	Mid-Atlantic Regional Maintenance Center
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MOS	Military Occupational Specialty
MTIS	Material Turned in to Stores
NALCOMIS	Naval Aviation Logistics Command Management Information System
NAVSUP	Naval Supply Systems Command
NC	Navy Cash
NCIS	Naval Criminal Investigation Service
NERP	Navy Enterprise Resource Planning
NPS	Naval Postgraduate School
NROTC	Naval Reserve Officers Training Corps
NSN	National Stock Numbers
NTCSS	Navy Tactical Command Support System
OCS	Officer Candidate School
OEM	Original Equipment Manufacturer
OFRP	Optimized Fleet Response Plan
OJT	On the Job Training
OMMS-NG	Organization Maintenance Management System-Next Generation
O&MN	Operation & Maintenance Navy
OTS	One Touch Support
OPTAR	Operational Target Funds

R-ADM	Relational Administration
ROM III	Retail Operations Management III
RPPO	Repair Parts Petty Officer
RSUPPLY	Relational Supply
SABRS	Standard Accounting, Budgeting, and Reporting System
SFOEDL	Summary Filled Order Expenditure Difference Listing
SMART	SABRS Management Analytical Tool
SODHC	Supply Officer Department Head Course
STA-21	Seaman to Admiral
STARS	Standard Accounting and Reporting System
T&M	Time and Materials
TL	Transmittal Letter
TYCOM	Type Commander
WO	Warrant Officer

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

We express our deepest appreciation to our advisors, Dr. Juanita Rendon and Dr. Chong Wang, for their meticulous guidance, direction, and patience throughout this process. Next, we thank our families for enduring the long hours we have put into this effort. We especially thank our wives and best friends, Iliana and Imilsy, for their encouragement, love, and sacrifice. Finally, we would like to thank the Navy Supply Corps for selecting us to attend the Naval Postgraduate School and complete graduate studies in the field of business and financial management.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

A. BACKGROUND

The Department of Defense (DOD) received approximately $720B from Congress to conduct annual defense-related operations for fiscal year 2022 (Office of the Undersecretary of Defense [Comptroller], 2022). Of that total, approximately $220B (30%) was allocated to the Department of the Navy (DON) (Office of the Undersecretary of Defense [Comptroller], 2022). From that amount, approximately $50B (22%) was allocated to the United States Marine Corps. Of the remaining $170B left for the Navy, approximately $50B (30%) were utilized for operations and maintenance of naval commands.

This research focuses on operational target funds (OPTAR) that make up close to 25% of the $50B operation and maintenance budget, which equates to approximately $12.5B per year. These funds are allocated to commands at the lower levels of the DON. Examples of these lower levels are surface combatants, submarines, aviation squadrons, and other support entities. These funds are assigned to each command monthly by the Type Commanders (TYCOMs). The proper management of OPTAR funds in the United States Navy is key in meeting mission requirements put forth by the DOD. A well-managed OPTAR provides the Navy the ability to prepare, execute, and complete the missions through the acquisition and procurement of needed repair parts, consumables, and services. The Navy accounts for hundreds of commands in which OPTAR funds are assigned and managed daily and reported up the chain of command monthly. OPTAR is managed by naval logisticians (i.e., Supply Corps Officers and enlisted Logistics Specialist personnel).

OPTAR funds are especially difficult to manage at the lower command levels due to the complexities involved in the relationship of how funds could be spent, the financial systems themselves, and the level of expertise required from logistics operators. In the U.S. Navy, a service member's primary role is, first and foremost, to be a Sailor. That primary role is followed by proficiency in their respected area of knowledge. This doctrine, compounded with the fast-changing operational environment in which Navy commands

regularly operate, requires a significant amount of effort from military personnel. As a result, not enough resources are expended to efficiently manage OPTAR funds. Therefore, OPTAR's limited oversight by its managers could leave a gap, giving an opportunity to potential fraudsters to exploit system weaknesses for personal benefit. According to the Naval Criminal Investigative Service (NCIS), procurement fraud in the form of general acquisitions for parts and services, conflicts of interests, and cost mischarging cases increased by 20% from 2019 to 2020 (DON, 2021).

The next section of this chapter discusses the purpose of the research.

B. PURPOSE OF RESEARCH

The purpose of this research is to determine Navy Supply Corps Officers' knowledge of fraud, waste, and abuse as it applies to OPTAR funds and to assess their perceptions of the sufficiency of the Navy's training, internal controls, and audit processes related to OPTAR funds. This research may reveal the need for more effective training, more effective internal controls, and more efficient audit processes to deter, detect, and prevent OPTAR fraud, waste, and abuse.

The next section discusses the research questions.

C. RESEARCH QUESTIONS

This research attempts to answer the following questions:

1. When Navy Supply Corps Officers are given different scenarios, how knowledgeable are they in differentiating between incidents of Navy OPTAR fraud, waste, or abuse schemes?
2. What are Navy Supply Corps Officers' perceptions of training sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?
3. What are Navy Supply Corps Officers' perceptions of internal control sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?

4. What are Navy Supply Corps Officers' perceptions of audit process sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?

The next section discusses the research methodology.

D. METHODOLOGY

This research includes a detailed literature review, creation and distribution of a survey instrument, and an analysis of the data collected from the survey. The literature review includes government documents and publications, scholarly articles, and other publications related to OPTAR funds, fraud, waste, and abuse. Other areas researched were training, internal controls, and audit processes as they apply to OPTAR funds. The literature review also discusses current procedures and protocols utilized by naval commands to manage OPTAR funds for services and supplies.

The data used for this research is obtained through the deployment of an online survey to Naval Postgraduate School (NPS) students who are United States Navy Supply Corps Officers. The purpose of the survey is to identify possible issues in the level of knowledge (LOK), as well as to identify any gaps in Navy Supply Corps Officer perceptions of the sufficiency of training, internal controls, and audit processes in relation to OPTAR fraud, waste, and abuse. The categories of questions are demographics, knowledge-based (fraud, waste, and abuse scenarios), organizational perceptions based on a Likert scale, and training received, familiarity with services and programs, and utilization of services and programs related to the job of a logistician (Logistics Specialists and Supply Corps Officers), also based on a Likert scale. The appropriate determination letter regarding Human Subject Research for the survey was requested and approved through the NPS Institutional Review Board.

The next section discusses the importance of the research.

E. IMPORTANCE OF RESEARCH

The importance of this research is that identifying issues in the level of knowledge related to fraud, waste, and abuse of OPTAR funds and identifying negative perceptions

related to training, internal controls, and audit processes of OPTAR funds may inform naval leadership and financial management personnel of the possible need for more effective training, internal controls, and audit processes. Furthermore, it is important to identify any common issues faced by today's Navy Supply Corps Officers at the operational level and to provide recommendations based on the research findings.

The next section discusses the organization of the report.

F. ORGANIZATION OF REPORT

This report consists of five chapters. The introduction chapter discusses the purpose of the research. The research questions relate to fraud, waste, and abuse levels of knowledge, and the perceptions of the sufficiency of fraud, waste, and abuse training, internal controls, and audit processes as they relate to OPTAR funds. This chapter also discusses the methodology of how the data was collected and analyzed, as well as the importance of the research.

The literature review, Chapter II, includes a description and definition of OPTAR funds, as well as fraud, waste, and abuse. The chapter discusses training processes for Navy Supply Corps Officers and their Logistics Specialists, discusses internal controls, and covers audit processes. Finally, the chapter reviews the financial processes of lower-level commands and provides a description of the programs utilized by Navy Supply Corps Officers.

The methodology of this research, Chapter III, describes the development of the survey questions related to trends in the LOK of OPTAR fraud, waste, and abuse among Navy Supply Corps Officers. This chapter provides the logic behind survey questions that helps focus the research in the areas of training, internal controls, and audit processes related to OPTAR funds. Additionally, the chapter describes the data collection process used in this research for analysis.

An analysis of the research is provided in Chapter IV, and it first covers the findings from the data. After the findings are discussed, an analysis section is included that applies those findings to the four research questions. The last section of the analysis chapter

provides recommendations based on the findings identified from OPTAR fraud, waste, and abuse levels of knowledge and sufficiency perceptions related to training, internal controls, and audit processes.

Finally, Chapter V, provides a summary of the research. This is followed by a conclusion section that discusses the gaps identified as they relate to the research questions. The last section of this chapter is a discussion of areas in this research that could benefit from further studies.

The next section discusses the summary of the chapter.

G. SUMMARY

This chapter discussed the background of OPTAR funds in relation to fraud, waste, and abuse. It identified the purpose of the research and presented four research questions that seek to ascertain Navy Supply Corps Officers' levels of knowledge as applied to OPTAR fraud, waste, and abuse, as well as their perceptions of the sufficiency of OPTAR FWA training. The chapter presented a methodology used to collect and analyze the data. It also described the importance of the research as well as the organization of the report.

The next chapter discusses the literature review.

THIS PAGE INTENTIONALLY LEFT BLANK

II. LITERATURE REVIEW

A. INTRODUCTION

This chapter provides a description of operational target (OPTAR) funds, defines and describes fraud, waste, and abuse (FWA), and discusses auditability theory. Training, internal controls, and audit processes as applied to the management of OPTAR funds are discussed. Furthermore, a description of the services and programs available to Navy Supply Corps Officers and their Logistics Specialists that enable them to deter, detect, and prevent OPTAR FWA is provided. In addition, an overview of the financial management process from beginning to end is discussed.

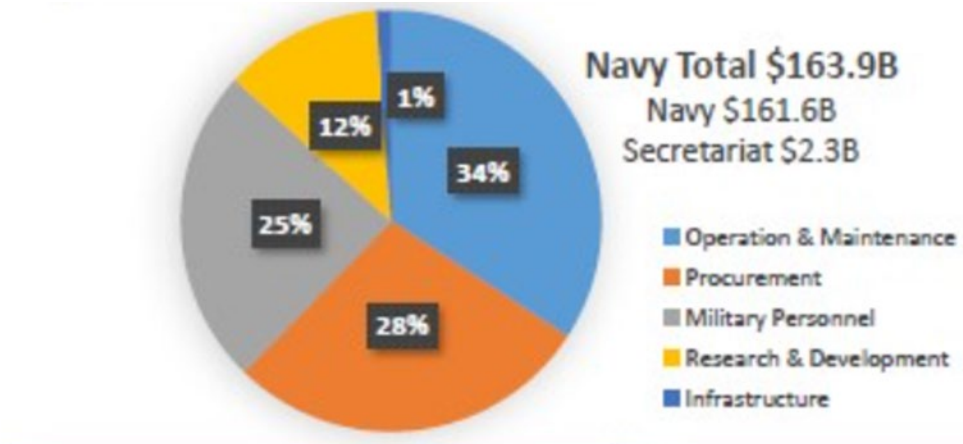
The next section discusses OPTAR funds.

B. OPERATIONAL TARGET FUNDS (OPTAR)

The Office of the Undersecretary of Defense (Comptroller) (2022) reported via the FY 2023 Budget Request that the Department of Defense (DOD) received approximately $720B from Congress for fiscal year 2022. The total was divided amongst the Department of the Army (DOA) (approximately $170B), the Department of the Air Force (DAF) (approximately $220B), and the Department of the Navy (DON) (approximately $220B) (Office of the Undersecretary of Defense [Comptroller], 2022). For the last decade, the DON has requested and received a budget averaging approximately $200B a year from the DOD. Approximately $50B (22%) of the $200B budget is set aside for the United States Marine Corps each year. This leaves the United States Navy with a budget of approximately $150B per year.

The $160B DON budget is divided into appropriations. The five largest appropriations are: operation and maintenance, procurement, military personnel, research and development, and infrastructure (Figure 1). OPTAR funds allocated to lower-level commands originate from the largest appropriation, the operation & maintenance Navy (OM&N) appropriation. These funds are managed by Navy Supply Corps Officers and their Logistics Specialists and are utilized for financing the day-to-day operational costs of

each command. OPTAR funds, for example, are utilized to purchase repair parts, consumable items, and fuel (Department of the Navy, 2021). OPTAR funds are an estimate of the funds required by each command to operate and conduct its functions for the fiscal year. Funds are allocated in monthly stipends by the Type Commander, or TYCOM (for example, Commander Naval Surface Forces, Atlantic). TYCOMs maintain all legal responsibility and accountability over OPTAR, and consequently, there is a high level of oversight given to the management of these funds for each subordinate command (Department of the Navy, 2019). At the TYCOM level, OPTAR amounts are established based on historical data of operating costs evaluated for each independent command, per fiscal year.



Navy Total ($B)	FY21 Enacted	PB22	Delta	% Diff
Operation and Maintenance	54.93	56.12	1.19	2.2%
Procurement	50.46	46.07	(4.39)	-8.7%
Military Personnel	38.14	39.86	1.72	4.5%
Research and Development	17.60	19.88	2.28	13.0%
Infrastructure	1.77	1.79	0.02	1.3%
Revolving and Management Funds		0.15	0.15	
Total	162.90	163.86	0.96	0.6%

Figure 1. FY22 DON Budget by Appropriation Group. Source: Abott (2021).

OPTAR is composed of two types of funding (also referred to as colors of money), Equipment Maintenance Related Material (EMRM) and OTHER (Department of the Navy, 2016). EMRM is utilized exclusively for purchasing repair parts and services that are linked to the command's Coordinated Shipboard Allowance List (COSAL) and can be referred to simply as "repair" funding. OTHER money is used for all other consumable requirements that are not related to command repairs but are still necessary to carry out the mission (COMNAVFORINST 4400.1A, 2016). Examples of these requirements are office supplies, rental services, and cleaning equipment. OTHER funds are referred to as "consumable" funding.

There are several examples of research conducted on OPTAR funds. Rysavy (2007) analyzed why OPTAR expenditures, both repair and consumable, differed between three Submarine Pacific Command homeports. The most significant differences were found to be in the consumable OPTAR funding category, and the correlation found was that the differences did not depend on the location of the homeport—it depended on the schedule of the ship (Rysavy, 2007). An example of this would be a submarine in Pearl Harbor, Hawaii that spent more money than a submarine in San Diego, California. It was not that the ship stationed in Hawaii spent more because it was in Hawaii—it spent more because it was loading up on consumables (e.g., toilet paper and cleaning supplies) for deployment.

Another example of OPTAR-related research was York's (2008) study on the Fleet Readiness Training Plan (FRTP) for aircraft carrier operational cycles. York (2008) showed that, with a 20% reduction in OPTAR funds forecasted for carriers for fiscal years 2009 to 2013, the FRTP would have an expected negative impact on ship readiness fleet wide during those periods. The recommendation from the study was for maintenance planners to follow a "synchronous," long-term planning schedule to attain the desired readiness levels for the fleet (York, 2008).

OPTAR funds could be susceptible to fraud, waste, and abuse. The next sections describe the topics of fraud, waste, and abuse as they apply to OPTAR funds.

C. FRAUD

The DOD's Defense Contract Management Agency Instruction 906, paragraph 3.1.1.1. (2014, p. 8) defines fraud as

> a type of illegal act involving the obtaining of something of value through willful misrepresentation. Whether an act is, in fact, fraud is a determination to be made through the judicial or other adjudicative system and is beyond the auditor's professional responsibility. Fraud is described as a false representation of a material fact, whether by words or by conduct, by false or misleading allegations, or by concealment of that which should have been disclosed, which deceives another so he or she acts, or fails to act to his or her detriment.

According to the Office of the Inspector General, fraud is defined as the "wrongful or criminal deception intended to result in financial or personal gain. This includes false representation of fact, making false statements, or by concealment of information" (Office of the Inspector General, 2018, p. 1). It is important to note that misrepresentation, false statements, and concealment of information must have an intent to defraud as well as a value associated to it to be classified as fraud.

Research concerning fraud via any search engine will likely show healthcare community examples which can help clarify the difference between FWA. Fraud, utilizing medical insurance as an example, would be the purposeful misrepresentation of facts (lying) to gain something of value—maybe a payout for a disability that is not actually present in a patient.

From a public financial perspective, fraud can be described as an intentional action to gain something of value without being legally entitled to that item (Ringler, 2022). It also deprives another party of that resource, but for fraud to be present, there must be the intent to defraud (Ringler, 2022). Examples of fraudulent activities include covering up theft by reporting incorrect financial records, using items belonging to the organization to gain something personally, or taking a bribe (Ringler, 2022).

The concept of fraud is best known from the research conducted by Dr. Donald Ray Cressey, who was a penologist, sociologist, and criminologist. Cressey (1973) found that the conditions of perceived pressure (also referred to as incentive or motive), perceived

opportunity (which includes capability), and rationalization (also known as personal integrity) are present in one form or another for fraud to take place. These three components are represented in Figure 2, the Fraud Triangle (Wells, 2005).

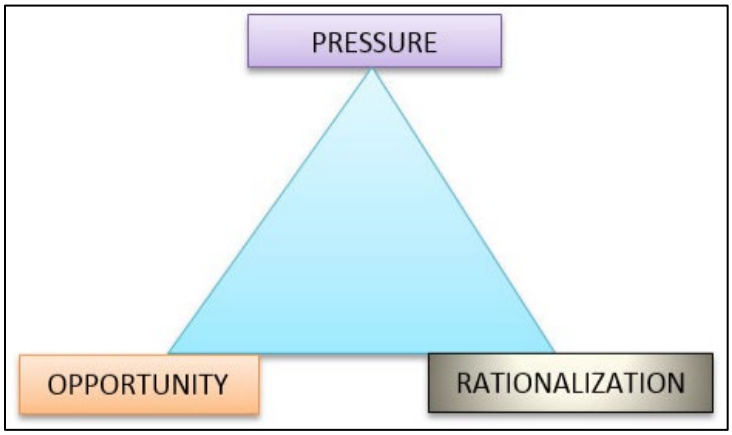


Figure 2. The Fraud Triangle. Source: Wells (2005).

Wolfe and Hermanson (2004) offer a variation on the Fraud Triangle with the Fraud Diamond in Figure 3. It replaces the pressure component with incentive, since pressure conveys a negative connotation while incentive shows that there could be a negative or positive incentive to commit fraud (Wolfe and Hermanson, 2004). For example, if someone is not able to pay his/her bills, this would be a negative incentive. If a person receives a bonus by committing fraud this would be a positive incentive. Wolfe and Hermanson's (2004) Fraud Diamond also separates the opportunity component, shown in the fraud triangle, into opportunity and capability. The critical aspect of capability shows how opportunity has little impact on fraud if the fraudster does not have the ability (the position), the intelligence (to get around internal controls in place), the ego (the confidence that they won't get caught), the coercive skills (to convince others to conceal the acts), the proficiency at lying, or the ability to cope with the stress needed to commit the fraud (Wolfe and Hermanson, 2004). An example of this could be a bank teller who has the chance to commit fraud but does not know the financial system well enough to commit the fraudulent activity without being apprehended by the bank's security system.

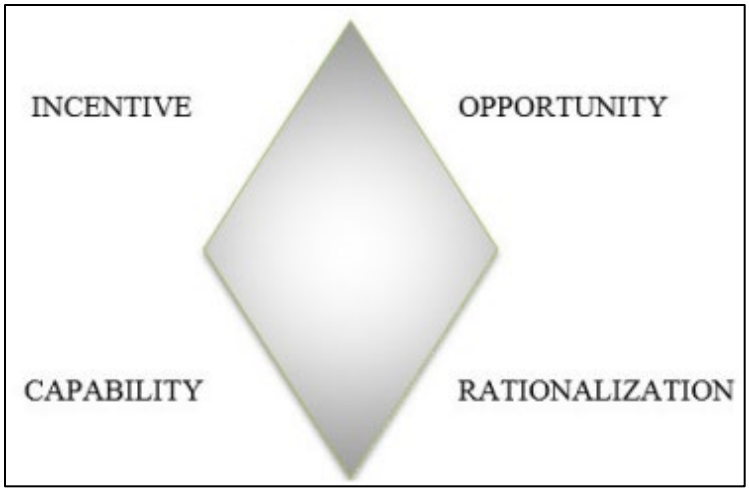


Figure 3. The Fraud Diamond. Source: Wolfe and Hermanson (2004).

Marks (2020) adds another component to the Fraud Diamond with the Fraud Pentagon in Figure 4. Dr. Cressey's original components of opportunity, pressure, and rationalization remain. The capability component from the fraud diamond is further separated into competence and arrogance. The competence component encompasses the ability and the intelligence to commit the fraud, while the arrogance component includes the ego, the lying, the coercive skills over others, and the ability to deal with the stress associated with committing fraud. But Marks (2020) also describes arrogance as the "lack of conscience," also needed to commit the fraud.

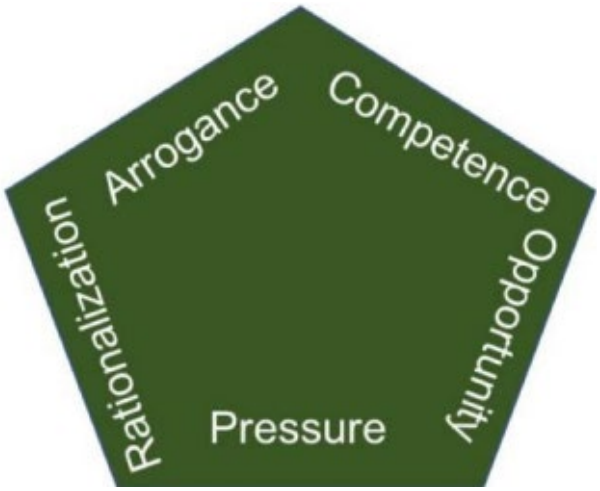


Figure 4. The Fraud Pentagon. Source: Marks (2020).

Multiple studies have been conducted where these fraud components can be applied to real world situations. For example, the Fat Leonard case was the topic of a recent analysis. Even though multiple alleged crimes were present in the case (sex trafficking and bribery, for example), the findings were most notably focused on the contracting and acquisitions community (Whiteley et al., 2017). Components from the Fraud Triangle, the Fraud Diamond, and the Fraud Pentagon were present in this ongoing case.

There have also been studies that could not determine significant findings in respect to fraud detection and prevention. Kidwell's (2018) study set out to find a relationship between the type of fraud investigation and four different variables: the type of contract, the type of competition, the size of the business, and the Federal Procurement Data System (FPDS) codes. The finding was that, while a relationship could not be found between the type of fraud investigation and the type of competition, business size, and FPDS codes, the indefinite delivery, indefinite quantity (IDIQ) and time and materials (T&M) contract types had the propensity for fraudulent claims (Kidwell, 2018).

Rowe and McLaughlin's (2019) research focused on whether fraud penalties were severe enough to deter future fraud amongst defense contractors. Their research, using a regression analysis, did not prove that the penalties in the form of fines had any impact on future fraudulent activities (Rowe & McLaughlin, 2019). Furthermore, they deduced that the penalties incurred were low enough that the reward outweighed the cost and risk and would not change the fraudster's behavior in the end (Rowe & McLaughlin, 2019). The next section describes and differentiates waste from fraud and abuse.

D. WASTE

The DOD's Defense Contract Management Agency Instruction 906, paragraph 3.1.1.2. (2014, p. 8) states that waste

> involves the taxpayers not receiving reasonable value for money in connection with any government-funded activities due to an inappropriate act or omission by players with control over or access to government resources (e.g., executive, judicial or legislative branch employees, grantees, or other recipients). Importantly, waste goes beyond fraud and abuse and most waste does not involve a violation of law. Rather, waste

> relates primarily to mismanagement, inappropriate actions, and inadequate oversight.

According to the Office of the Inspector General, waste is defined as the "thoughtless or careless expenditure, mismanagement, or abuse of resources to the detriment (or potential detriment) of the U.S. government. This includes incurring unnecessary costs resulting from the inefficient or ineffective practices, systems, or controls" (Office of the Inspector General, 2018, p. 1).

In the medical community, waste can be differentiated from abuse and fraud by introducing inefficiency. For example, a person that has been diagnosed with a common cold, but still insists on going to the doctor daily for two weeks, would be considered wasteful. In this case it would be considered a waste of time and resources.

From a public financial perspective, waste is a frivolous use of funds that could be caused by a lack of efficiency or mismanagement. It is not an illegal act, but again a case of inefficiency. Examples of this could be buying unnecessary items, quantities of items, or buying items at a higher price when they could have been bought somewhere else at a lower price (Ringler, 2022).

Waste is not illegal but deterring, detecting, and preventing waste are best practices to preserve the good stewardship of taxpayer dollars. Another best practice in preserving this good stewardship is to deter, detect and prevent abuse, which is covered in the next section.

E. ABUSE

The DOD's Defense Contract Management Agency, instruction 906, paragraph 3.1.1.3. (2014, p. 8) states that abuse

> involves behavior that is deficient or improper when compared with behavior that a prudent person would consider reasonable and necessary business practice given the facts and circumstances. Abuse also includes misuse of authority or position for personal financial interests and those of an immediate or close family member or business associate. Abuse does not necessarily involve fraud, violation of laws, regulations, or provisions of a contract or grant agreement.

According to the Office of the Inspector General, abuse is defined as "excessive or improper use of a thing, or to use something in a manner contrary to the natural or legal rules for its use. Can occur in financial or non-financial settings" (Office of the Inspector General, 2018, p. 1).

In the medical sector, abuse can be differentiated from fraud and waste by introducing the concept of need. An example of this in the medical field could be a doctor who prescribes medications and treatments to a patient that does not need them. Abuse, like waste, is not an illegal act, but is another form of inefficiency.

From a public financial perspective, abuse can take the form of excessive utilization of something because a person's position allows them access to it, but the person does not gain anything of dollar value. Examples of abuse could include damaging an organization's equipment and not reporting it or using someone's position to gain favors from other employees (Ringler, 2022).

In order to help deter FWA, auditability is of vital importance. The following section discusses the auditability theory.

F. AUDITABILITY THEORY

According to Stuart (2012, p.2) "auditing is the process of reviewing the financial information prepared by the management of a company to determine that it conforms to a particular standard." In the Navy, audit processes are a way of life for all commands. Management of provisions, consumables, repair parts, weapons, ammunition, cleaning products, and office supplies are all examples of items requiring formal audit processes.

There is a difference between auditability (or being auditable) and being audited. An audit is a scheduled event in which auditors review an organization's systems and records for compliance. An example could be an inventory audit on a ship planned for a certain day of the week. This could involve an auditor reviewing inventory records and comparing them to actual inventories (samples) to determine if the inventories were conducted appropriately. Auditability is the ability to be audited. If the auditor could not

find any of the locations from the inventory example, then the audit cannot be conducted. This case is an example of an entity that is not auditable (Liberto, 2022).

The "Auditability Triangle" in Figure 5 lists the three components of auditability: people, internal controls, and processes (Rendon & Rendon, 2015). Personnel are key to the audit process, and the focus of this component is training, education, and experience. The processes component concentrates on whether the processes are measured, improved, and institutionalized. The last component, internal controls, focuses on the enforcement, monitoring, and reporting of those controls.

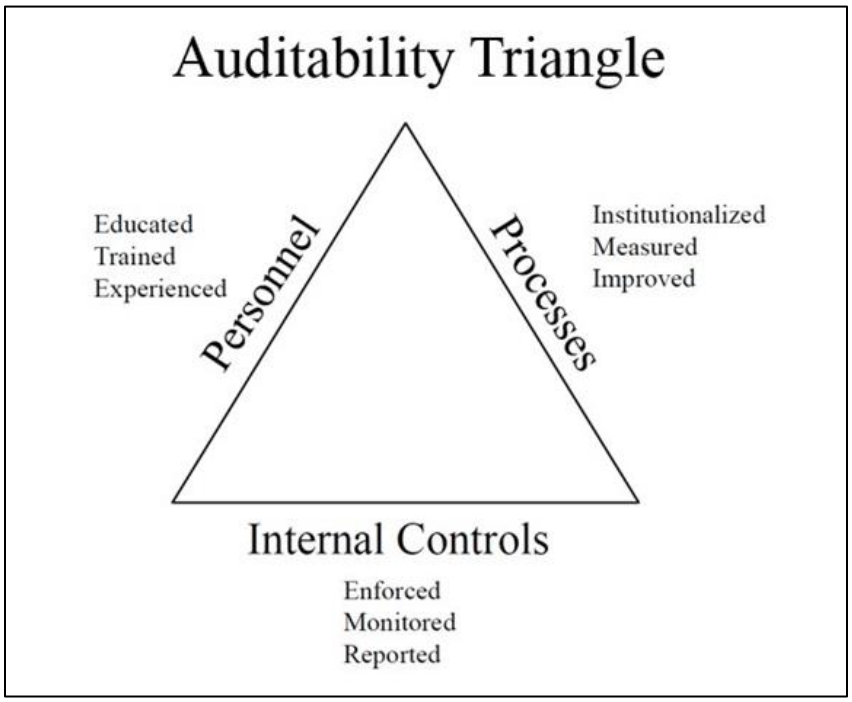


Figure 5. Auditability Triangle. Source: Rendon & Rendon (2015, p. 716).

In 2005, the Undersecretary of the Secretary of Defense (Comptroller) launched the Financial Improvement and Audit Readiness (FIAR) strategy. In 2018, the "readiness" word in the program's title was replaced with the word "remediation." Now, "the financial improvement and audit remediation (FIAR) strategy and governance structure is supported by leaders at every level who welcome the scrutiny and understand the value of audit" (DOD, 2021). FIAR's role in the management of OPTAR funds comes from periodic data

calls from commands. FIAR officials send a message to each command requesting specific documentation. From that point, FIAR officials grade the command on what they provide. An example of this audit process is when FIAR officials send a request to a command for proof of delivery documentation or a husbanding service invoice. The results of these audits are sent to the TYCOMs, and ultimately to the DOD.

From Whiteley et al.'s (2017) Fat Leonard analysis, significant recommendations of audit processes were provided, especially in terms of audit processes over the contracting of husbanding services. Bolinsky and Zuniga's (2019) study of the DON's unqualified opinion from its latest audit, in addition to having significant issues previously discussed in terms of its internal controls, also cited that the lack of auditability was an issue. The research showed that complete and accurate financial statements were lacking, and the researchers recommended a more robust internal audit system across the organization.

The main step in deterring FWA in any organization is training. Training could be in the form of an indoctrination course for newly gained employees and can be given as a periodic requirement for all employees. The format of the training could be in the form of a face-to-face assembly or an online session. The next section describes the training that Navy Supply Corps Officers and their Logistics Specialists receive relating to financial management.

G. TRAINING OF PERSONNEL

Preventing FWA in the Navy relies on the training regimen for Navy Supply Corps Officers and their Logistics Specialists. In a study involving procurement FWA and training of U.S. civilian and military sectors, Rodriguez (2013) found a lack of maturity present in the workforce in terms of FWA recognition. This signaled a need for more robust FWA training sessions to be added to the certification process for contracting specialists, which Rodriguez (2013) recommended.

In terms of general training for today's Navy Supply Corps Officers and their Logistics Specialists, there are several specific phases for each type of manager. The phases

are based on whether the financial manager is an enlisted Sailor (Logistics Specialist) or a commissioned officer (Supply Corps Officer). The next sections cover training in relation to the Logistics Specialist, the Supply Corps Officer, and the Afloat Training Group.

1. Logistics Specialist

Enlisted personnel in the Navy are recognized by their "military occupational specialty" (MOS), in conjunction with their ranks. This career recognition is referred to in the Navy as a "rate." The Logistics Specialist (LS) is the enlisted financial manager for the U.S. Navy. Junior LSs receive and stow materials (repair and consumable), conduct periodic inventories of materials, and turn over requested items to divisional personnel under the supervision of the senior LSs. The senior LSs also serve as the first-line auditors and financial program specialists that create and process financial reports for the command. In addition to these financial processes, LSs also perform postal services for the commands (Navy CyberSpace, n.d.). They receive, store, secure, and deliver all U.S. mail globally for the Navy. They also receive hazardous waste and prepare it for offload, receive materials to further issue to the customer, and maintain inventory of the hazardous materials to ensure safety (Navy Recruiting Command, n.d.).

The progression of LS training phases are as follows:

a. Recruit Training (Boot Camp)

The Recruit Training Command, in Great Lakes, Illinois, lasts seven-to- nine weeks. During boot camp, recruits receive initial orientation and indoctrination to become Sailors in the U.S. Navy. New recruits receive classroom training, which includes a variety of topics such as naval history, seamanship, firefighting, damage control, and marksmanship (Recruit Training Command, n.d.). No financial management training is provided during "boot camp." New Sailors receive rate training in the next phase, the technical school.

b. Logistics Specialist Technical School

The Logistics Specialist (LS) technical school phase is also referred to as "A" school, and is in Meridian, Mississippi. The "A" school provides LSs with the basic knowledge and training to perform their jobs within the Navy supply system. Various topics covered during this nine-week period include material procurement, material identification and storage, logistics forms, Relational Supply (RSUPPLY), financial reports, and mail management (MRP Training Solutions, n.d.). This is the first and last exposure to financial management that an LS will receive before reporting to their first duty assignment.

c. Submarine Specific Logistics Specialist

Submarine Sailors receive an additional training phase, specific to submarines. This training is provided in Groton, Connecticut. Although the training lasts an additional nine weeks, financial management training is not given. This training covers damage control specific to submarines. Another important characteristic of a submarine LS is that once they are trained as submarine LSs, they tend to remain in the submarine community.

d. Relational Supply School

The Relational Supply (RSUPPLY) school training phase takes place in two locations: Dam Neck Annex Base in Virginia Beach, Virginia, and 32nd Street Naval Station in San Diego, California. The school provides LSs with more in-depth training in supervisory functions within the RSUPPLY program software. The training covers the many different reports generated from RSUPPLY. A few examples of these reports are the Master Stock Status report, the Gain/Losses/Survey report, and the Pre-Deployment Stock Status report (Naval Supply Systems Command, 2005).

e. Supply Department Training Plan for Logistics Specialists

The Supply Department training plan for LSs includes various topics that ensure each LS receives the necessary training to balance their professional growth, their military

careers, as well as their personal development (COMNAVFORINST 4400.1A, 2016). Training plans are established on a long and short-range basis, and include on the job training (OJT), RSUPPLY financial management, technical verifications for parts ordered, inventory processing, and material receipt processing. Other weekly training includes topics such as Navy core values, ethics, uniform code, chain of command, and general military training. Some Type Commanders (TYCOMs) require training on certain topics to be given at specific times of the fiscal year, but most of the training topics are determined by the department or division. All training is documented in Supply Department divisional training logs (COMNAVFORINST 4400.1A, 2016).

2. Supply Corps Officer

A typical Supply Corps Officer training regimen starts immediately after earning his/her commission from the Officer Candidate School (OCS), Naval Academy, Navy Reserve Officer Training Corps (NROTC), Limited Duty Officer/Warrant Officer/Chief Warrant Officer (LDO/WO/CWO) Academy, or Seaman to Admiral (STA-21) programs. Supply training begins at the Navy Supply Corps School in Newport, Rhode Island. The Basic Qualification Course (BQC) is a 26-week initial training phase that equips new Supply Corps Officer with the basic tools necessary to fill entry-level roles in the fleet (Naval Education and Training Command, 2022). Supply Corps Officers reporting to submarines and minesweepers receive an additional four-week indoctrination phase through the Supply Corps Officer Department Head Course (SODHC), also located in Newport, Rhode Island.

The BQC training phase includes the following topics and descriptions:

a. Food Service Operations

In the food service operation phase of training, Supply Corps officers are provided with the policies that govern food service management for ashore and shipboard General Mess and Wardroom operations in the Navy. These officers focus on provisions rationing, procurement, receipt, proper stowage, inspection, sanitation, and financial records (Naval Supply Systems Command, 2016). The financial program of record for food service is the

Food Service Management (FSM) program, a standalone software system designed to manage food service operations, both afloat and ashore.

b. Stock and Control Operations

During the stock control operations phase of training, Supply Corps Officers are exposed to basic supply policies and procedures related to the operations and management of a command's supply department. This phase covers the following functions: material procurement and identification, custody and stowage, inventory management, expenditure and shipment, material receipt, and financial management procedures (Naval Supply Systems Command, 2015). Additionally, it introduces officers to various software programs such as the Navy Tactical Command Support System (NTCSS) suite. This software package contains the Relational Supply (RSUPPLY) and Organization Maintenance Management System-Next Generation (OMMS-NG) programs.

c. Disbursing Management and Navy Cash

Except for smaller surface combatant and submarine commands, operational commands also conduct disbursing operations. During the disbursing management and Navy Cash training phase of the BQC, officers are trained in the accountability and management responsibilities of a disbursing operation (Department of Defense, 2021). They are also introduced to the Navy Cash (NC) system, which allows users to transfer funds from their personal bank accounts to purchase merchandise from the Ship's store, vending machines, or pay mess bills consumed from the Wardroom (officers only). The NC system connects all sales outlets, automated teller machines, and general and private messes into one system. This system is managed by the Disbursing Officer, who is a relatively junior Supply Officer in the Supply Department.

d. Division Officer Leadership

A one-week Divisional Officer (DIVO) leadership course is given to all Supply Corps Officers. This phase of training provides officers with potential scenarios that they are likely to encounter during the first months of reporting to their first operational

assignments. These scenarios reinforce previous lessons on ethics and integrity, as well as FWA. This phase of training also includes group discussions conducted by senior officers, again emphasizing integrity and ethical conduct.

e. Retail Operations

Supply Officers are trained on basic processes involving ship's retail operations. These functions include records, storage, sales outlets, and service activities such as barbershop operations, laundry services, and maintenance of records and equipment (Naval Supply Systems Command, 2013). Supply Officers are also trained in the Retail Operation Management III (ROM III) program, a standalone software system utilized to manage the Navy's ship store and retail operations afloat.

f. Personnel Administration

The personnel administration phase of training provides Navy Supply Corps Officers with the necessary knowledge and skills involving personnel management, training, education, and qualification requirements. It covers important topics of electronic service record maintenance, pay and benefits, and leave entitlements. Supply Officers are also trained in the Relational Administration (R-ADM) program, another NTCSS suite program. It is specifically designed to manage administrative operations for personnel.

3. Afloat Training Group

The Afloat Training Group's (ATG's) primary mission is to ensure commands are equipped with the training required to execute their missions on deployment. The purpose of this entity is to enhance the return on training and maintenance investments, which ensures commands are certified for future deployment assignments. The ATG provides supply departments with the tools, guidance, and training resources to sufficiently manage their departments. The ATG offers logistics courses and assistance visits from senior logistics specialists to improve the Sailors' knowledge of proper supply procedures. The ATG is also required to review each supply division's records for discrepancies and identification of possible mistakes.

A training program is utilized to deter FWA, but detecting it is also important. The internal controls integrated framework is used to, not only deter FWA, but also provides tools to detect FWA that has already occurred. This integrated framework can be implemented and utilized in any organization and is used to obtain a reasonable assurance that FWA is not occurring. There are processes in place for remediation if FWA is occurring.

The next section focuses on the topic of internal controls.

H. INTERNAL CONTROLS

Internal controls are the "processes designed by management and others charged with governance to provide reasonable assurance that company's responsibilities in three areas are met: (1) the reliability of financial reporting, (2) the effectiveness and efficiency of operations, and (3) compliance with laws and regulations" (Stuart, 2012, p. 51). Internal controls are an integrated framework, a system of processes that are utilized to achieve an entity's objectives in three areas: operations, reporting, and compliance (COSO, 2013). Figure 6 (COSO, 2013, p. 6) lists these three objectives on the top side of the cube, while the organizational structure levels are shown on the right side of the cube. The five components of the internal control integrated framework are shown on the face of the cube. They are an integrated framework because the components, while distinct, relate to one another. These components are further detailed into 17 principles (Figure 7).

Figure 6. Relationship of Objectives and Components. Source: COSO (2013, p. 6).

The first internal control component is the control environment. The control environment encompasses five of the 17 related principles of internal controls (Figure 7). One principle focuses on ethical values and integrity implemented by the management team (GAO, 2014, p. 9). It is commonly referred to as the "tone at the top" of the organization (GAO, 2014). The GAO (2014) discusses another principle of the control environment component as management's responsibility to hire, train, and keep productive employees. The division of finance at the University of Missouri illustrates the control environment on their website utilizing a chart applying principles to the control objectives as well as documentation required to provide evidence that the internal control component is in place (University of Missouri, 2022).

Lightle et al.'s (2007) article on the control environment discusses the utilization of employee surveys to find out if the culture of ethical behavior has been established in that organization. The article goes on to state that the use of these surveys is a tool for internal auditors to measure effectiveness of the controls in place. Survey questions can include ethical frameworks and codes of conduct and can be in the Likert scale format.

In relation to OPTAR, the term "funny money" has been frequently used by leadership throughout the Navy. This sets the wrong example because it could lead to the

rationalization for fraudulent behavior from Navy Supply Corps Officers and their Logistics Specialists. An example of the "tone at the top" comes from the latest Financial Improvement and Audit Remediation (FIAR) Report. It states that, "a strong tone-at-the-top reinforces the importance of accountability in support of the DOD mission, strategy, policy, people, and resources" (Department of Defense, 2021). While ethics and values are required training topics for Sailors, the training sessions required can end up taking the form of "check in the box," with no real attention given to the stewardship of taxpayer dollars. The term "check in the box" is widely used in the Navy recognizing the need for a requirement, but not receiving the full commitment to fulfill the requirement.

The second internal control component is risk assessment. This component encompasses four related principles of internal controls (Figure 7). The GAO (2014) states that one principle of this component is the responsibility of management to compare possible risks to the organization with its objectives. Another principle is management's responsibility to include the fraud potential when considering risks for the organization (GAO, 2014). "The purpose of management's risk assessment is to identify and control risks that could prevent the company from meeting its objectives" (Stuart, 2012, p. 54).

An article by Deloitte and Touche states that the risk assessment component is so important that it should be the first step incorporated in an organization's internal control system; the assessment will further serve as a guide to set up the remaining components (Ackerman et al. 2021). Frank's (2004) article discusses the risk assessment in terms of fraud. He describes a process for the internal auditor that includes how to organize the assessment, what areas to include, the possible fraud schemes, the chance that the fraud could occur, how severe the fraud could be, the controls in place for antifraud, and the application of the assessment to the audit (Frank, 2004).

In relation to OPTAR, the risk assessment component translates into whether the mission is completed or not. If a command does not properly identify risks associated with its OPTAR funding, the command could be susceptible to waste. Waste equates to requests for more funding from the TYCOM. More funding to wasteful commands can theoretically result in deficient operations from commands who truly needed the funds.

The third internal control component is control activities. This component encompasses three related principles of internal controls (Figure 7). One principle is the need for designing controls to reach objectives while considering risk (GAO, 2014). It encompasses topics such as the segregation of duties, reviews of transactions for accuracy, and several human resource strategies such as retention, training, and evaluation. The University of Pittsburgh (2020) Internal Audit Division states that control activities fit into two activity types, preventive, and detective. The preventive control activities are implemented to defend against potential harmful activities, while the detective control activities are implemented to find the harmful activities after they have occurred (University of Pittsburgh, 2020).

Raschke et al.'s (2013) article discusses how the Lean process balances the importance of control activities where the employees are still able to do their jobs. That is, it is important that the cost of the component does not overtly interfere with the benefits of doing business (Raschke et al., 2013). The article also discusses how the two processes complement each other when operating correctly (Raschke et al., 2013).

In relation to OPTAR, Navy Supply Corps Officers and their Logistics Specialists are challenged with enforcing segregation of duties because there is a constant turnover of personnel. Smaller commands that have two or three Sailors in the division have an even more complicated task when confronted with segregation of duties. For example, when an LS requests an item, the LS could also be an approver, and ultimately the LS could also be a receiver. This example shows how the opportunity component of the fraud triangle takes shape. This also translates into challenges for the Government Commercial Purchase Card (GCPC) program, since the duties of requestor, approver, and receiver could possibly be the same LS as well. When these instances occur, it is important to implement other control activities, such as an approval chain outside of the divisional representatives (i.e., approval in writing by the Commanding Officer of the command).

The fourth internal control component is information and communication. It encompasses three related principles of internal controls (Figure 7). One of the principles describes management's role in externally communicating information in line with achieving objectives in the organization (GAO, 2014). "A company's information system

consists of the procedures and records established to initiate, record, process, and report the entity's transactions and to maintain accountability for the asset, liability, and equity accounts" (Stuart, 2012, p. 54). The Minnesota Management and Budget (2010) Office's internal controls bulletin recommends assessing internal communication channels in the organization by creating working groups, surveys, or any other medium that would allow the organization to measure the effectiveness of those communications.

In relation to OPTAR, information and communication takes the form of audits of financial documentation and inventories. Some TYCOMs require their commands to conduct 100% record validation by the Supply Officer for every proof of delivery, whether it be a receipt, packing slip, or some other proof that merchandise ordered was received by the correct personnel. This is internal to the division, but also represents external communications with divisional repair parts petty officers (RPPOs). The information and communication component also involves the accounting systems of an organization. In the Navy, and more specifically to the individual commands, this refers to programs such as the Command Financial Management System (CFMS) and RSUPPLY.

The fifth, and final, internal control component is monitoring activities. It encompasses two related principles of internal controls (Figure 7). One principle is the responsibility of management to immediately correct internal control deficiencies (GAO, 2014). This component's purpose is to ensure that the internal controls are working as intended. For Navy commands, monitoring activities take the form of required audits, much like the 100% validation of all proof of delivery documentation discussed earlier.

Frank (2012) discusses how non-for-profit organizations have problems implementing internal control frameworks. He recommends these types of organizations focus on monitoring activities, giving examples such as consistently comparing monthly and quarterly activities and immediately investigating unexpected variations encountered (Frank, 2012). Ionescu's (2011) article enforces the importance of monitoring activities, stating that without a system of monitoring in place over the other four components, the internal controls framework would lose its effectiveness. The reason for this is that, as time passes, the organization changes, and the monitoring activities communicate those changes to the internal auditors. This is an example of the immediate remediation aspect of the

monitoring activities which enforces the idea that the system is in place and doing what it was intended to do.

In relation to OPTAR, monitoring activities require verified reviews (annotated by a manager's signature) of documentation. Examples of this type of documentation are technical validations for parts and consumables ordered, inventories conducted, any changes made to the information systems by internal or external sources, and any movement of high dollar assets to and from the command. Supply Officer audits also help achieve this internal control component. Examples of these audits are Supply Officer required inventories, HAZMAT audits, and receipt and issue documentation audits.

Control Environment

1. The oversight body and management should demonstrate a commitment to integrity and ethical values.

2. The oversight body should oversee the entity's internal control system.

3. Management should establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives.

4. Management should demonstrate a commitment to recruit, develop, and retain competent individuals.

5. Management should evaluate performance and hold individuals accountable for their internal control responsibilities.

Risk Assessment

6. Management should define objectives clearly to enable the identification of risks and define risk tolerances.

7. Management should identify, analyze, and respond to risks related to achieving the defined objectives.

8. Management should consider the potential for fraud when identifying, analyzing, and responding to risks.

9. Management should identify, analyze, and respond to significant changes that could impact the internal control system.

Control Activities

10. Management should design control activities to achieve objectives and respond to risks.

11. Management should design the entity's information system and related control activities to achieve objectives and respond to risks.

12. Management should implement control activities through policies.

Information and Communication

13. Management should use quality information to achieve the entity's objectives.

14. Management should internally communicate the necessary quality information to achieve the entity's objectives.

15. Management should externally communicate the necessary quality information to achieve the entity's objectives.

Monitoring

16. Management should establish and operate monitoring activities to monitor the internal control system and evaluate the results.

17. Management should remediate identified internal control deficiencies on a timely basis.

Figure 7. Seventeen Principles of Internal Controls. Source: GAO (2014, p. 9).

To illustrate the necessity and importance of the internal controls integrated framework, several studies were consulted to provide examples of how they are used in other organizations. The first study by Whitely et al. (2017) utilized the ongoing case of alleged fraudulent activities in the Fat Leonard Case. This study found that there were

deficiencies in internal controls (Whitely et al., 2017). One deficiency was the control environment, where leadership was heavily involved in the alleged crimes (Whitely et al., 2017). The other deficiency was the information and communication component, where alleged classified communications were received by personnel without the appropriate security clearances required, which would be an example of external communications (Whitely et al., 2017).

Bolinsky and Zuniga (2019) conducted a study to find out why the DON received an unqualified opinion on its latest audit. They found that the DON lacked reliable, effective, and compliant internal controls; four of the nine annotated weaknesses of the organization were categorized as internal control weaknesses (Bolinsky & Zuniga, 2019). One recommendation from Bolinsky and Zuniga (2019) was for the DON to incorporate additional, specified training for personnel responsible for auditable programs. Another recommendation was to concentrate on the implementation of internal controls with the understanding that the financial environment is constantly changing for the DON.

Another research project conducted by Chang (2013) focused on the five internal control components as they related to U.S. Army contracting processes. The findings of the research pointed to differences in perceptions of fraud awareness across the internal control components (Chang 2013). The responses from survey participants pointed to a false confidence in their knowledge of, and reactions to, procurement fraud. This was based on their responses to the level of knowledge questions, which showed a disparity between their perceptions and their measured level of knowledge results (Chang 2013). Additionally, when questioned about their perceptions of susceptibility to different fraud schemes, the conflict-of-interest scheme was the most common response (Chang 2013).

In a report to Congress, the Comptroller General of the United States (1981) reported that several DON activities (e.g., Norfolk shipyard, Charleston shipyard, and NAVSEA) possessed vulnerabilities to FWA. Vulnerabilities existed due to the ineffectiveness of the internal controls in place for those activities, and involved payrolls, computer and other office equipment, and travel payments (Comptroller General of the United States, 1981). The Comptroller General of the United States (1981) recommended the implementation of more effective internal controls and internal audits.

The internal controls integrated framework is utilized to detect and deter FWA. Audit processes are closely associated with the internal control integrated framework and will be covered more in-depth in the next section.

I. FINANCIAL MANAGEMENT AND AUDIT PROCESSES

Effective training and internal controls are critical in the successful management of OPTAR funds in the Navy, but without processes in place to ensure those components are functioning properly, the system will fail. The next sections describe the financial management of OPTAR funds in conjunction with audit processes in the Navy.

1. Obligation and De-Obligation of Appropriated Funds

OPTAR is composed of consumable and repair funding. Both types of funding are obligated and de-obligated the same way. When the command orders an item, the funding is "obligated" meaning the command's accounting system subtracts the purchase from the command's balance locally. This means that the funds have not actually been transferred to the source of supply. "De-obligations" are the opposite. These are orders that get added back into the command's local accounting system. An example of a de-obligation is when a command cancels an outstanding part.

A command's funds are obligated when the command releases requisitions into the system if ordered from the stock system (by MILSTRIP) or obligated manually for credit card and contract purchases. A command's funds are de-obligated when requisitions are cancelled, also by MILSTRIP or by manual input into the system. There are four general types of procurement methods available to naval commands: stock system via MILSTRIP, Government Commercial Purchase Card purchases, DD Form 1149 purchases, and contract purchases. Each of these methods is discussed next.

a. Stock System (via MILSTRIP)

The most utilized procurement method a command uses to obtain parts, supplies, and services is through the Navy's supply stock system. This process, in basic terms, initiates when a work-center (also known as a division) orders a requirement under an

OMMS-NG job order. After the job order is screened for accuracy by the work center DIVO (and the DH), the requirements get released into a queue in RSUPPLY, known as the suspense listing. The LS will audit all requests in the suspense listing, and once the verifications are completed, will pass the requisitions into the RSUPPLY requisition release queue. This is the last step of the review process. After that point, the requisitions will be sent as MILSTRIPs via the Defense Automated Addressing System (DAAS) to NERP. NERP has the capacity to search other sources of supply within the Navy stock system for excess material or "free issue" stock prior to sourcing requisitions to GSA, DLA, or the OEM (Naval Supply Systems Command, 2015).

b. Government Commercial Purchase Card (GCPC) and Open Purchase

The Government Commercial Purchase Card (GCPS) program is the second procurement method most utilized by Navy commands as it enables LSs to order material and supplies directly from contracted sources in a simple and expeditious manner. The purpose of the GCPC program is to help military commands simplify small procurement methods, payments, and accelerate the rate in which commands can obtain emergent services and material (Naval Supply Systems Command, 2015). This process may be done by several different methods. The most common method used is the utilization of an "open purchase request" submitted by the customer to the command's supply department. These requests require at least three quotes from outside contracted sources to promote competition. The GCPC program is also used to pay for contracted services (DD Form 1155) requested through the Fleet Logistics Centers and material purchased through other sources of supply like GSA and FedMall. The GCPC program is limited to the OPTAR funds allocated into the GCPC line of accounting. The GCPC is governed by the procedures and policies referenced in accordance with Naval Supply Systems Command Instruction 4200.99C (2015).

c. Funding Document (DD1149)

The DD Form 1149 is widely used within the DOD for procurement of material and services, and it can be used as an invoice for material receipt, as well as a shipment

document. An important attribute of the DD Form 1149 is that it is used to procure material or services that are excluded from MILSTRIP procedures, such as requests for material repairs, equipment rentals, renovations, or contracted work requested from the Fleet Logistics Centers (FLC). Other services requested using this form include the requisition of DLA bulk fuels, temporary storage at a DLA warehouse, or for continuing services such as the command's cargo van, passenger vans, supply trucks, or crane services.

d. Contracting

The fourth and final form of procurement requires an obligation to be made in the RSUPPLY software to show that the command has set aside the funding for a special purpose, which is the same process as a GCPC purchase. When a command needs to procure an item that is not in the stock system, and when the item is over the monetary threshold to utilize the GCPC, a contract package must be developed by the requesting party and submitted to the command's TYCOM. From there, the contract package gets forwarded to the TYCOM contracting office located at the nearest FLC. The contracting office also requires three quotes to promote competition, but ultimately the company that is awarded the contract is solely in the purview of the contracting specialist assigned the contract package.

2. Financial Reports

Whether utilizing RSUPPLY or another financial program of record, naval financial reports must be submitted to the Commander Navy Installations Command (CNIC) to ensure budgetary balance with the Defense Finance Accounting Service (DFAS). Commands are responsible for processing their financials on a weekly basis but must also ensure process and submission of a monthly report. The RSUPPLY software produces three files when financials are processed. These files are the transmittal letter, the standard accounting and reporting system file, and the budget OPTAR report. The next sections cover these three files.

a. Transmittal Letter

Also known as simply the "TL," the transmittal letter is a summary of all transactions processed at the command for a period of one week. These transactions can take the shape of an obligation or de-obligation. This report is required as a record for retention along with the other reports at each command and are subject to audit by the Financial Improvement and Audit Remediation (FIAR) program.

b. Standard Accounting and Reporting System (STARS)

The Standard Accounting and Reporting System (STARS) file is a raw data version of the TL. Data from this report is the same found in the TL but converted into a format utilized by SABRS. This data is uploaded into the Command Financial Management System (CFMS). Once the information is uploaded into CFMS, it can be reconciled with DFAS.

c. Budget Operational Target Report (BOR)

Every financial process will include a monthly report, known as the Budget OPTAR Report (BOR). This report summarizes all transactions taken from the weekly TLs and combines them for a one-month period. The BOR also gives the reviewer a snapshot of the command's financial status for the year and includes two previous years of data for comparison.

Even though reports are required weekly and monthly, the TL and BOR may be processed at any time. These reports are often run daily by the command's Supply Department to review transactions and forecast financial levels for the future. The only difference in these types of reports is that they are processed as "trial," meaning the process will not change any data in the accounting system. The financial files that are submitted up the financial chain of command must be processed as "live." This does cause a change of data in the accounting system. All obligations, or de-obligations, are finalized, and all transactions after that point will be reflected in the next reporting period.

The organizational financial systems allow for transactions such as obligations and de-obligations, but also allow for uploads of funding to satisfy those transactions. Funding is submitted to the commands by the TYCOMS. After that, the next step in the financial system is the submission of the financial data into the program of record, CFMS.

3. Difference Listing

Financial data is reconciled between SABRS and DFAS. Any differences between obligations are sent back through the CFMS program as difference listings (DLs). This process was formerly referred to as a "Summary Filled Order/Expenditure Difference Listing" (SFOEDL) but is now the DL. When a command obligates funds to procure a part or consumable, the LS division verifies the most up-to-date information concerning that part, most importantly the most current price. If the price is not current, the command will obligate the wrong amount of money, but will still be able to order the part. DFAS will be charged the correct price and record this obligation in SABRS. SABRS will communicate the new price to CFMS, and the difference will be reported back to the command via the DL. From there the Navy Supply Corps Officers and their Logistics Specialists add or subtract funds in their accounting system to give the command the most accurate picture of where they are financially. There are three steps to process the DL.

The first step in the DL process is for personnel in the comptroller's office to compare obligations and de-obligations recorded in DFAS to the original obligations and de-obligations reported by the commands. The upload takes time, but the comptroller's personnel use several sophisticated programs that obtain, match requisitions, and provide any differences in amounts, plus or minus, in a summary format. Once data has been gathered, the comptroller personnel create reports and upload them into CFMS.

Step two is for the TYCOM to run the DL reports from CFMS or wait to receive the reports from the comptroller's office. The DL report is a snapshot in time, much like the balance sheet from financial accounting. The reports are gathered by the TYCOM and entered into the financial audit program of record for their commands. This audit program is converted into a Microsoft Excel spreadsheet and is utilized to ensure that the commands

are tracking the same financial picture as their TYCOMs. From there, the TYCOM will forward the reports to the commands.

The final step, and the most important, is for the command to take this report and compare the obligations on the report to what is in their system of record, RSUPPLY. This is executed at the leading LS level, but there is an audit requirement that must be performed by the Supply Officer. This report tells the command what additional funds need to be obligated or de-obligated. The goal is for all agencies (the command, the TYCOM, and the comptroller) to have the same financial picture.

The training of personnel, effective internal controls, and effective audit processes are components of the auditability triangle which help detect, deter, and prevent FWA (Rendon & Rendon, 2015). Navy Supply Corps Officers and their Logistics Specialists need services and programs that are created to strengthen the training, internal controls, and audit processes of their commands. These ensure that they have a reasonable assurance that FWA is not occurring in their command, and if it is, that remediation is completed in a timely manner. The next section discusses these services and programs.

J. SERVICES AND PROGRAMS FOR FINANCIAL MANAGERS

There are many services and programs available to aid Navy Supply Corps Officers and their Logistics Specialists in the management of OPTAR funds. Some make up a large part of their daily routine while some are less frequently used but provide the manager with extra tools to successfully discharge their duties. It is important for LSs and Supply Corps Officers to be familiar with the services and programs available. The following sections provide a brief description of each.

1. Navy Tactical Command Support System

The Navy Tactical Command Support System (NTCSS) was established in 1995 and is a system software application that provides the necessary tools required to requisition Commercial Off the Shelf (COTS) material in support of repairs and maintenance of ships, submarines, and aviation squadrons. The software contains a variety of functionalities to manage financials, expenditures, inventories, and track management

of personnel for Navy and Marine Corps commands (Assistant Secretary of the Navy for Research, Development & Acquisition, n.d.). The programs from the NTCSS suite are: Organizational Maintenance Management System-Next Generation (OMMS-NG), Relational Supply (RSUPPLY), and Naval Aviation Logistics Command Management Information System (NALCOMIS), which are discussed next.

a. Organizational Maintenance Management System-Next Generation

The Organizational Maintenance Management System-Next Generation (OMMS-NG) is the starting point for anything maintenance related in a command. The database is loaded with a listing known as the coordinated onboard ship allowance list (COSAL) (Naval Supply Systems Command, 2015). This listing holds records for all command systems (e.g., parts and materials utilized by the command). The COSAL is updated on a periodic basis by a member of the crew. If this listing is not updated frequently, the command will operate with outdated information, possibly for systems that no longer exist at the command. If this program does not get updated, the supply department that holds the onboard spare repair parts needed to fix the systems may not have the correct assets needed to fix the systems.

When a command has a system that requires maintenance, whether preventative or corrective, a service member will utilize OMMS-NG to create a maintenance job order for the impacted equipment, depending on the level of maintenance (Naval Supply Systems Command, 2015). There are three levels of maintenance: organizational, intermediate, and depot. DOD Directive 4151.18 (2004) states that organizational repairs are those that can be completed by the command, intermediate repairs are those that are not authorized for command repair and must be referred to the local maintenance activity, and depot level repairs are those that can only be completed by a shipyard or the original equipment manufacturer (OEM).

The OMMS-NG processes are organizational level jobs that require parts and supplies. Once the division creates a job order for the equipment, the program will give the division a list of all applicable parts (Naval Supply Systems Command, 2015). It is important to understand that each system has its own allowance parts listing (APL)

according to the COSAL. If the division cannot find the system, and that system requires parts, the division will utilize a function in OMMS-NG that allows for ordering parts not listed. In most cases, the divisions will find the appropriate systems and place correct parts on order. Once those items needed are ordered, they are placed in a queue and await the approval of the Department Head (DH), or an entrusted representative such as the Assistant DH or Departmental Leading Chief Petty Officer. Once he/she approves the parts, the request will transfer over to the next program in the NTCSS suite, RSUPPLY (Naval Supply Systems Command, 2015).

b. Relational Supply

Relational Supply (RSUPPLY) is a logistics software package utilized by all United States Navy combatant platforms (e.g., Aircraft Carriers, Guided Missile Destroyers, Littoral Combat Ships, Amphibious Assault Ships, Guided Missile Cruisers, and Submarines) to manage end users' Operations and Maintenance Navy (OM&N) funds in the form of OPTAR (Naval Supply Systems Command, 2005). RSUPPLY offers inventory, logistics, and financial management tools (e.g., ordering, receiving, issuing material, and maintaining financial records) to enable the daily operations of U.S. Navy commands. RSUPPLY enables weekly reconciliation of financial records, inventories, and budget status with the TYCOM (Naval Supply Systems Command, 2005).

The RSUPPLY application software is distributed into the following five major function tabs: site, inventory, logistics, financials, and query. The "site" function contains information of the activity, user access parameters, financial appropriations, and system values that identify each specific command. The "inventory" function allows for stock checks, queuing inventories by locations, and many other functions. Additionally, this function provides the means for stock replenishment and enables the user to adjust stock levels (Naval Supply Systems Command, 2005). Within the "logistics" function, LSs can create Military Standard Requisitioning and Issue Procedures (MILSTRIP) requisitions, receive material for stock, process direct turnover (DTO) materials, process incoming orders from customers, process carcass tracking for Depot Level Repairable (DLR) parts, and update the logistics data base.

The "financial" function enables LSs to track and input OPTAR funds in the form of augments received from the TYCOM. This function is also the location to generate weekly and monthly financial reports. It is the responsibility of the financial LS to ensure RSUPPLY records match TYCOM financial records. The ATG helps with this process when the command is in port.

And finally, the "Query" function enables users to queue up general requests in the system, such as finding a previous issue or receipt transaction in the RSUPPLY database. It also allows access to historical transaction data, which can prove helpful when investigating errors in the system (Naval Supply Systems Command, 2005). This function is often used to track high dollar items, such as DLRs.

c. Naval Aviation Logistics Command Management Information System

The Naval Aviation Logistics Command Management Information System (NALCOMIS) is the aviation component of NTCSS. This program is comparable to RSUPPLY for the surface and submarine platforms, but functionality is more focused on the maintenance component vice the financial management component. NALCOMIS is found in aviation commands ashore, as well as on aviation supported platforms, such as Aircraft Carriers. These platforms operate both RSUPPLY and NALCOMIS in tandem. On these larger platforms, the Navy Supply Corps Officers and their Logistics Specialists control financials for both the surface and aviation elements.

2. Continuous Monitoring Program (CMP)

The Continuous Monitoring Program is a web-based program that is uploaded with a command's RSUPPLY, FSM, and ROM III data. Once the command processes their weekly financials, the LSs, taking inputs from the food service and ship store divisions, upload the data into the website. The purpose of CMP is to communicate financial and provisions status to the TYCOM.

3. Navy Enterprise Resource Planning

The Navy Enterprise Resource Planning (NERP) is the Department of the Navy (DON) financial and accountability system of record. The program provides users with live, up-to-date visibility on naval assets globally. NERP combines supply chain management, financial management, and acquisition/procurement management, all in one program in real time (Navy Enterprise Resource Planning, n.d.). Most of the Navy's financial operations are completed within NERP (Navy Enterprise Resource Planning, n.d.).

4. Command Financial Management System (CFMS)

While the NERP program is the system of record for supply chain management in the Navy, the program of record for the financial system is the Command Financial Management System (CFMS). This system utilizes the submission of financial data for all entities at the command or TYCOM levels. Personnel in the comptroller's office utilize this data to ensure that the financial status being reported by commands matches the comptroller's status. CFMS is a common access card (CAC) enabled website utilized to upload financials, query difference listings (DLs), and several other functions that aid in the supervision of finances for the Navy. It enables planning of budgets almost in real time.

As stated previously, command financials afloat are submitted utilizing RSUPPLY. The three files summarized (Transmittal Letter, Standard Accounting and Reporting System file, and Budget OPTAR Report) represent a financial picture for the comptroller's office (Naval Supply Systems Command, 2015). The uploads are simple and are often successfully transmitted in minutes. Weekly, the raw data files labelled Standard Accounting and Reporting Systems (STARS) and Transmittal Letters (TLs) are uploaded to CFMS. The Budget OPTAR Report (BOR) is uploaded monthly and is a summary of all TLs for the month, current fiscal year, and two prior fiscal years (Naval Supply Systems Command, 2015).

5. Standard Accounting, Budgeting, and Reporting System (SABRS)

The Standard Accounting, Budgeting, and Reporting System (SABRS) is the "Core Financial System and General Ledger for the Navy Budget Submitting Offices" (Secretary of the Navy, 2022). The purpose of the transition from the legacy system, STARS, to SABRS was to make Navy financials auditable in accordance with federal accounting and reporting standards. This system was adopted from the United States Marine Corps. SABRS utilizes the SABRS Management Analytical Tool (SMART) to produce auditable reports.

Since commands utilize financial systems that produce accounting data in the STARS format (RSUPPLY for example), it was necessary to develop a go-between system to communicate the data effectively and efficiently to SABRS. CFMS is the tool for this communication. Once the data reaches SABRS, the last step is reconciliating the data with the Defense Financial & Accounting System (DFAS).

Commands submit their financials (STARS files) on a weekly basis to CFMS, CFMS transfers the data to SABRS, and SABRS matches the data to what is in DFAS. If the data from DFAS does not match what is in SABRS, the CFMS program will create a Difference Listing (DL). The TYCOM must ensure that their commands get a DL report each month so that all parties can address and investigate any issues. Any corrections needed to be made are conducted manually by the LS, reviewed by the Leading LS, and approved by a Supply Corps Officer.

6. NAVSUP One Touch Support System

The One Touch Support (OTS) system is a logistical support program developed by the Navy Supply Systems Command (NAVSUP) headquartered in Mechanicsburg, Pennsylvania. OTS serves as a web portal that connects naval logisticians (Supply Officers, LSs, DOD civilians) with the DOD's global supply system (Naval Supply Systems Command, 2021). LSs utilize OTS to perform numerous logistical functions such as stock check (for availability of items), order status, and tracking information. One of the principal uses of OTS is the requisition input feature. Requisition input allows LSs to submit

standard requisitions into the supply system for processing after requisitions have been released from the RSUPPLY software (T. Malig, PowerPoint slides, October 1, 2020). Additionally, OTS provides LSs with the ability to retrieve any material's technical data based on national stock number (NSN), part number, or item nomenclature to verify correct data matches the RSUPPLY software. If mismatches are present, the correct data can be loaded manually into RSUPPLY.

7. Haystack

Haystack is a maintenance and supply tool produced by the Information Handling Services Markit. The program, which can be utilized online or by DVD (when a command loses communications at sea), is a command LS division's most powerful tool when verification of requisitioned repair parts is concerned. The product boasts "the most current pricing, technical and availability data on one-hundred and ninety-plus million-part references in seventy-plus databases" (S&P Global, 2022, p. 1). This tool allows the user to access thousands of APLs, part numbers assigned to those APLs, and more importantly, what commands are associated with those APLs. It will also let the user search by NSN, which is especially important if the user does not know the APL corresponding to the system.

As previously discussed, when a division orders parts for maintenance, they utilize the OMMS-NG program. If the command's COSAL is current, the parts listed in the system will be accurate. However, if the part in hand does not show up in OMMS-NG, this can be problematic for the divisional Repair Parts Petty Officer (RPPO). The RPPO's next step is to research the needed parts listed in their technical manuals (they may know which parts are correct but utilized the wrong APL). If they still cannot figure out the correct parts to order, they meet with their 3M System Coordinator (3MC) or an LS for more guidance.

This is the point where many RPPOs try to manually input data into OMMS-NG by ordering a part under "parts not listed." It is up to the LS to verify the part. If the LS cannot verify the part in OMMS-NG, he/she should utilize a program like Haystack to research the component further. After that, there is a system in place that allows for additions and changes to APLs, as well as a process for reporting those issues up through

the supply system so that it can remedy the problem for future transactions Navy-wide. Once all due diligence has been expended, and the part is confirmed to be correct, the LS passes the requirement into the supply system.

8. Defense Logistics Agency

The Defense Logistics Agency (DLA) manages the world-wide supply chain and disposition services for all the service branches as well as other federal agencies. DLA provides most of the military's spare parts, fuel, and consumables (Defense Logistics Agency, n.d.). As a logistics service provider, DLA acquires material from manufacturers and government contracted suppliers to provide the DOD and other federal agencies with logistics support when required. Other services provided by DLA include warehousing, packaging, shipping, material disposition, and material transportation (Defense Logistics Agency, 2021). The Defense Logistics Agency's major responsibilities are to (1) procure materials and services, (2) warehouse material, and (3) distribute consumables and repairable items. DLA is headquartered at Fort Belvoir, Virginia. The DLA services and programs are described next.

a. FedMall

FedMall is a DLA online commerce procurement platform for customers (military branches, federal, as well as state, and local agencies, etc.). Customers can search and purchase items online for their commands, agencies and/or military units (Defense Logistics Agency, n.d.). FedMall regularly accepts payments via the Government Purchase Card Program but can also accept requisitions using Military Standard Requisitioning and Issue Procedures (MILSTRIPs) processing.

b. Federal Logistics (FEDLOG)

DLA's FedLog is a program utilized to research consumable and repairable parts. The program gives customers a catalogue of items that can be queried by the NSN, nomenclature, part number, etc. (Defense Logistics Agency, n.d.). FedLog is updated monthly from a DVD subscription for each command.

c. DLA Disposition (formerly Defense Reutilization Marketing Office or DRMO)

DLA Disposition is one of the major sub-branches under the DLA umbrella. Its major services include the disposition of excess material or property obtained from all military branches and DOD agencies. DOD material and property can be processed by disposal, reutilization, or by conducting public sales offerings. The disposal of material is executed by established programs such as property turn-in, hazardous material and waste turn-in, recycling, and demilitarization. Reutilization of material is conducted through donations and transfers between DOD agencies and local law enforcement and firefighting organizations. Public sales offerings present the public with the opportunity to bid on DOD surplus materials. The advantage of utilizing DLA Disposition is that commands can dispose of unused or excess materials and can obtain materials and property completely free of charge (Defense Logistics Agency, 2021).

9. General Services Administration (GSA)

The mission of the General Services Administration (GSA) agency is to "deliver value and savings in real estate, acquisition, technology, and other mission-support services across government" (United States General Services Administration, n.d.). GSA serves as a one-stop shop for billions of dollars' worth of products, and as of late 2021, they have also made a large footprint in the realm of COVID materials (e.g., masks, gloves, protective suits, sanitizers, and other cleaning chemicals). GSA customers are government agencies, as well as local government agencies (e.g., search and rescue, law enforcement, and firefighting services).

In relation to OPTAR funds, it is important to understand that GSA is the source of supply for most consumables in the DOD. From paper products to office supplies, GSA will be the source of supply for commands anywhere on the globe. As previously discussed, when MILSTRIPs are passed into the supply system, all parts related directly to command systems (repair) are forwarded to specific warehouses according to NERP sourcing logic. If those repair parts are not available in the system, they will generally be channeled to

contracting for procurement from the OEM. Meanwhile, the consumable items requisitioned are forwarded to GSA.

It is also important to understand that GSA has a storefront on most installations (not just for the Navy). These stores are called "SERVMARTs" and allow military personnel on installations to shop aisles like a normal office supply store. For commands, a representative of a division or department goes through the store and picks out supplies that are needed. Once they have the list of items, they have the store issue a quote. From there, the quote is submitted to the supply department for processing. After proper scrutiny by an LS, the order can be purchased and completed with either a government furnished commercial purchase card (GCPC) or with a DD Form 1149 which has the line of accounting to be charged.

10. NAVSUP Weapon Systems Support

The mission of NAVSUP Weapon Systems Support (WSS) is to "provide Navy, Marine Corps, Joint and Allied Forces program and supply support for the weapon systems that keep our naval forces MISSION READY" (Naval Supply Systems Command, n.d.). WSS is separated into three departments, each with its own location. The first is the transportation and distribution department, located in Norfolk, Virginia. This department of WSS is responsible for the movement of personnel and cargo. The aviation department of WSS is in Philadelphia, Pennsylvania. The third department is located in Mechanicsburg, Pennsylvania. WSS Mechanicsburg is the department that supports all surface commands, to include submarines.

WSS Mechanicsburg and WSS Philadelphia serve as inventory control points for their platforms. This means that any repair parts or spares that are needed for any systems will be coordinated through the efforts of these departments. Concentrating on the command department, Mechanicsburg is the control point for all hull, mechanical, or electrical components (HME) for Navy commands.

In terms of the process of orders for repair parts (HME, not consumable) it was previously noted that if the parts cannot be found in the supply system that procurement

must be coordinated with the OEM. If the OEM has the part on the shelf, it is a simple process for WSS to forward the requirement to the command. Many times, however, the OEM does not have the materials on the shelf, and this creates a new problem. In these instances, the OEM must manufacture a new part. This can take a long time, possibly months, or even years. The term "long lead time material" comes from this situation.

Avoiding long lead times for needed materials requires WSS to dedicate personnel to manage parts that are of high importance for systems. These personnel are called item managers, and they have cognizance over several of these important components. The components under a manager are related by systems or platforms. The idea is that dedicating a manager for these components allows for higher asset visibility, removing the obstacles of bottlenecks to maintenance, and ultimately removing the risk to operations, specifically deployments (Naval Supply Systems Command, n.d.). The next section provides a summary of this chapter.

K. SUMMARY

This chapter began with a description of operational target (OPTAR) funds. Next, the chapter defined and described the concepts of fraud, waste, and abuse (FWA), and auditability theory. In addition, the chapter discussed the topics of training, internal controls, and audit processes as they applied to the management of OPTAR funds. Furthermore, the chapter discussed and described the services and programs available to help Navy Supply Corps Officers and their Logistics Specialists deter, detect, and prevent FWA of OPTAR funds. The next chapter discusses the methodology utilized to collect the data needed for the analysis of trends concerning OPTAR FWA.

THIS PAGE INTENTIONALLY LEFT BLANK

III. METHODOLOGY

A. INTRODUCTION

This chapter describes the development of the survey instrument. In addition, the process of the deployment of the survey is explained. Finally, the analysis method utilized regarding the collection of data from an online survey of Navy Supply Corps Officers is discussed. The following section describes the development of the survey.

B. DEVELOPMENT OF THE SURVEY

To determine Navy Supply Corps Officers' knowledge of fraud, waste, and abuse as it applies to OPTAR funds and to assess their perceptions of the sufficiency of the Navy's training, internal controls, and audit processes related to those OPTAR funds, a survey instrument was created. Questions from the survey were developed using information from Chang (2013), COSO (2013), GAO (2014), the Naval Criminal Investigation Service's 2020 Annual Crime Report for the Department of the Navy (DON, 2021), the Department of Defense (DOD) (2018) Inspector General Report on the DOD Reporting of Charge Card Misuse to OMB, and from the Navy Supply Procedures (Naval Supply Systems Command, 2015).

The survey questions were grouped into four categories: demographics, level-of-knowledge (LOK) scenarios, organizational perception questions, and services and products for Navy Supply Corps Officers and their Logistics Specialists. There were three demographic questions posed to Navy Supply Corps Officers. The first two questions were developed with the intention of comparing participants' total years of naval service with their operational target funds (OPTAR) management experience. The goal of the third question was to delineate the military occupational specialties (MOSs) of the Supply Officers (i.e., were they Warrant Officers, Limited Duty Officers, etc.).

The survey instrument includes twelve knowledge-based questions in the form of scenarios. Each of these questions had the participants identify whether they believed the scenario was fraud, waste, abuse, or a proper purchase. There were three questions related to fraud, three related to waste, two related to abuse, and two related to proper purchases.

Additionally, there were two questions that combined the components for possible effective ways to minimize potential FWA.

The survey instrument included organizational perception questions in which participants were asked to respond based on their past experiences. Using a Likert scale, the perception questions were distributed into 38 statements delineated into LOK, training, internal controls, and audit processes. The last two questions in this section inquired about the overall perception of internal control issues in commands the participants had been part of prior to reporting to Naval Postgraduate School (NPS) in Monterey, California, in terms of susceptibility to FWA.

The last section of the survey instrument asked participants to identify the services and programs utilized to complete their jobs. This section was also based on Likert scales. The first portion of this section questioned participants about their familiarity with the services and programs. The second portion questioned participants about how much training they received for those services and programs. The last portion questioned the frequency of the utilization for those services and programs to successfully conduct their jobs.

C. SURVEY DEPLOYMENT

The Institutional Review Board (IRB) Determination Package for this research was submitted to the NPS IRB office. The IRB made the determination that the research did not meet the definition of human subject research, and therefore, it did not require approval from the IRB or the NPS President. The data gathered was unclassified. All officers surveyed were students at the Naval Postgraduate School who have served in the U.S. Navy at the operational command level (i.e., ships, submarines, and shore-based commands). The anonymous survey, which was strictly voluntary, was deployed online via the Qualtrics survey program to 64 active-duty Navy Supply Corps Officers via a link sent by the researchers. The survey was open for two weeks.

D. DATA ANALYSIS METHOD

The anonymous survey was deployed online on February 15, 2022, and was closed exactly two weeks later, on March 1, 2022. All survey data was then exported to Microsoft Excel. Of the 64 officers who were sent the survey link (the population), 44 responded. Of those 44 respondents, ten surveys were incomplete and were excluded from the analysis. The 34 (53.1%) completed surveys represent the sample. The method of analysis utilized in this research includes statistics, comparisons, tables, graphs, and measures of correct responses from those participants that completed the survey in its entirety.

E. SUMMARY

This chapter described the development of the survey instrument. It discussed the deployment of the survey as well. Finally, the chapter described the data analysis method utilized regarding the collection of data from an online survey of Navy Supply Corps Officers. The next chapter provides the findings, analysis, implications, and recommendations from the data collected, measuring Supply Corps Officer FWA LOK, as well as perceptions of the training, internal controls, and audit processes related to OPTAR funds.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. FINDINGS, ANALYSIS, IMPLICATIONS, AND RECOMMENDATIONS

A. INTRODUCTION

This chapter discusses the findings, analysis, implications, and recommendations from the research. The findings, analysis, implications, and recommendations are based on the data collected from an online, anonymous survey which utilized the Qualtrics Survey program. The first section discusses the findings from the research according to the following question types: demographics; FWA level of knowledge (LOK) questions; organizational perceptions questions; and services and programs questions. The second section discusses the analysis of the data. The third section discusses the implications based on the findings. The fourth and final section discusses the recommendations based on the findings and analyses. From this point on, fraud, waste, and abuse will be referred to with the acronym "FWA" and level of knowledge will be referred to as "LOK."

B. FINDINGS

1. Survey Response

The online survey instrument was deployed to a population of 64 participants on February 15, 2022. The survey remained open until March 1, 2022. Of the 64 officers who were sent the survey link, 44 responded. Of those 44 respondents, ten surveys were incomplete and were excluded from the analysis. Thirty-four participants completed the survey for a response rate of 53.1%.

2. Demographics

The first section of the survey instrument included three demographics questions to ascertain the levels and types of experience that were present in the sample. The first question asked how many years of experience each participant had in the Navy. The second question asked how many years of experience each participant had in operational target (OPTAR) funds management in the Navy. In addition, the participants were questioned

about their Military Occupational Specialty (MOS) – whether they were Supply Corps Officers (3100 designation code), Limited Duty Officers (6510 designation code), or other.

Figure 8 shows the participants' years of experience in the Navy. There were no participants with less than five years of experience in the Navy. Five (14.7%) participants responded that they had six-to-ten years of experience. Twenty-one (61.8%) participants responded that they had 11-to-15 years of experience. Two (5.9%) participants responded that they had 16-to-20 years of experience. Six (17.6%) participants responded that they had over 20 years of experience.

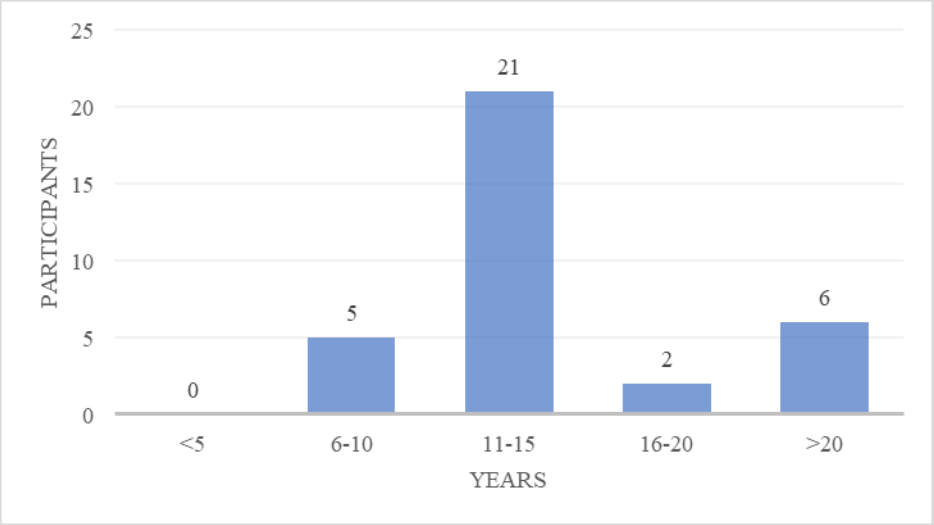


Figure 8. Demographics Question 1 of 3: How many years have you been in the Navy?

Figure 9 shows the participants' years of OPTAR management experience in the Navy. Four (11.8%) participants responded that they had less than two years of OPTAR management experience. Twelve (35.3%) participants responded that they had three-to-five years of OPTAR management experience. Thirteen (38.2%) participants responded that they had six-to-ten years of OPTAR management experience. One (2.9%) participant responded that he/she had 11-to-15 years of OPTAR management experience. Two (5.9%) participants responded that they had 16-to-20 years of OPTAR management experience.

Two (5.9%) participants responded that they had over 20 years of OPTAR management experience.

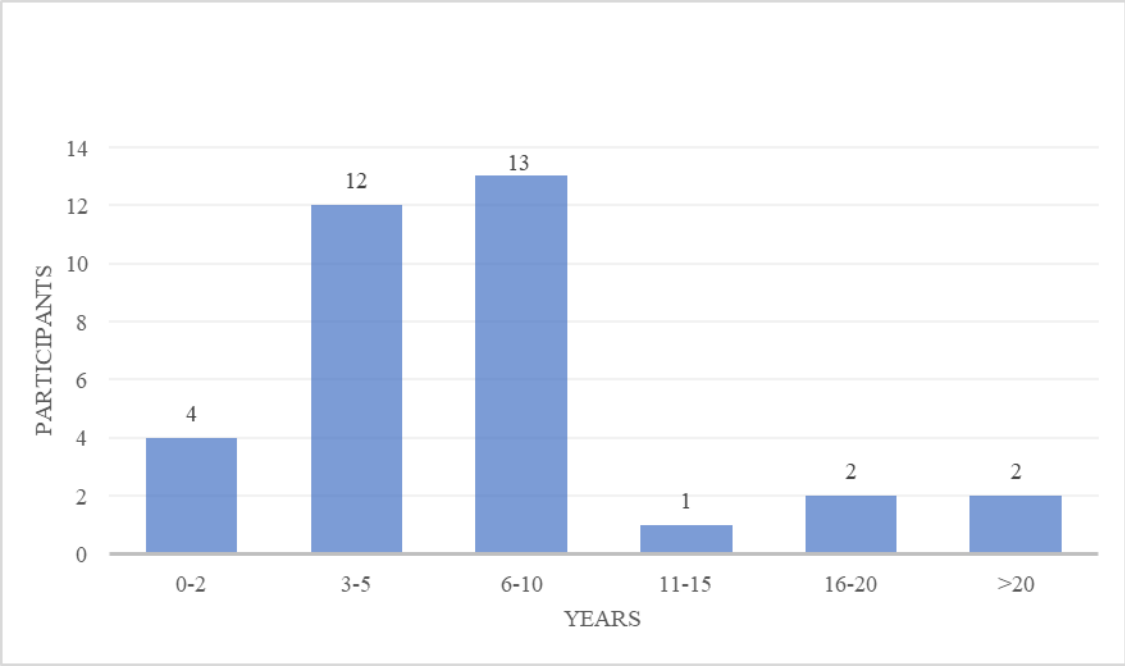


Figure 9. Demographics Question 2 of 3: How many years of operational target (OPTAR) funds management experience do you have?

For the demographics survey question number three all participants responded that they were MOS 3100 Supply Officers, so a figure was not included.

3. Level of Knowledge (LOK) Questions

The second section of the survey included level of knowledge questions. A total of 12 questions were included in the survey to ascertain participant fraud, waste, and abuse (FWA) level of knowledge (LOK) (Appendix A). Ten of the 12 knowledge-based questions had FWA or proper purchase options. Two of the 12 LOK questions were related to FWA training, internal controls, and audit processes (categorized as "other"). Table 1 shows this breakdown of questions. Figures 10 through 18 show the findings. Correct responses are shown by a green bar and incorrect responses are shown by a blue bar. All twelve LOK questions are listed in Appendix A.

Table 1. Breakdown of LOK Questions

	Number of Questions
Fraud	3
Waste	3
Abuse	2
Proper Purchase	2
Other	2
Total	12

There were three "fraud" questions in the LOK section. Figure 10 shows participants' responses for the first "fraud" question. Twenty-two (64.7%) participants responded correctly. Eleven (32.4%) participants responded incorrectly with "abuse." One (2.9%) participant responded incorrectly with "proper purchase."

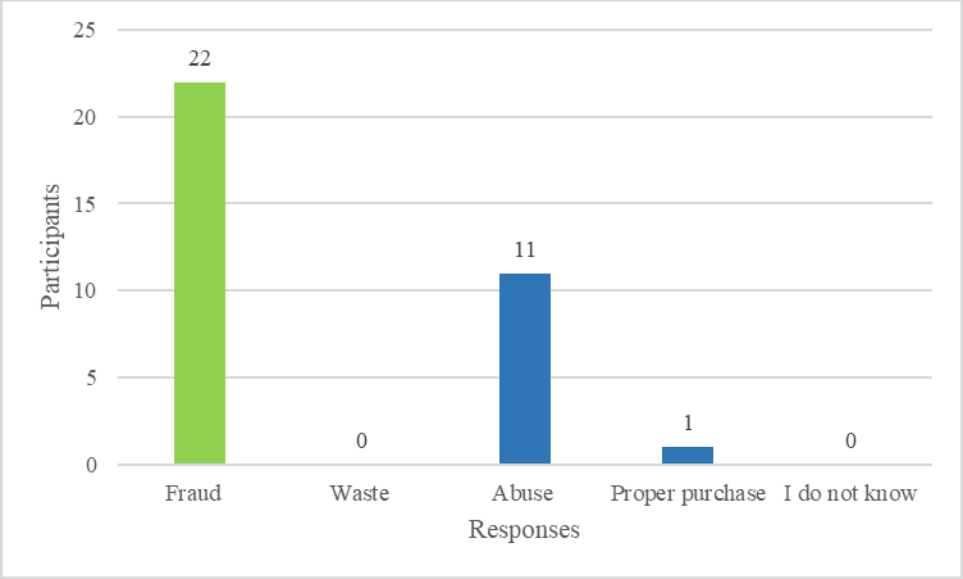


Figure 10. FWA LOK - Fraud Question 1 of 3: Distribution of Participant Responses

Figure 11 shows participants' responses for the second "fraud" question. Twenty-eight (82.4%) participants responded correctly. Six (17.6%) participants incorrectly responded with "abuse."

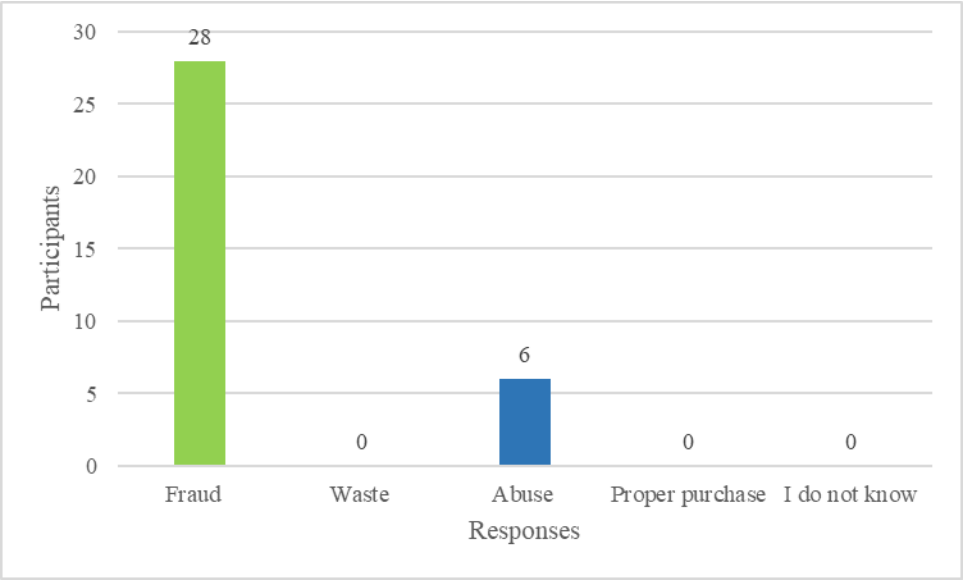


Figure 11. FWA LOK - Fraud Question 2 of 3: Distribution of Participant Responses

Figure 12 shows participants' responses for the third "fraud" question. Thirty-three (97.1%) participants responded correctly. One (2.9%) participant responded incorrectly with "abuse."

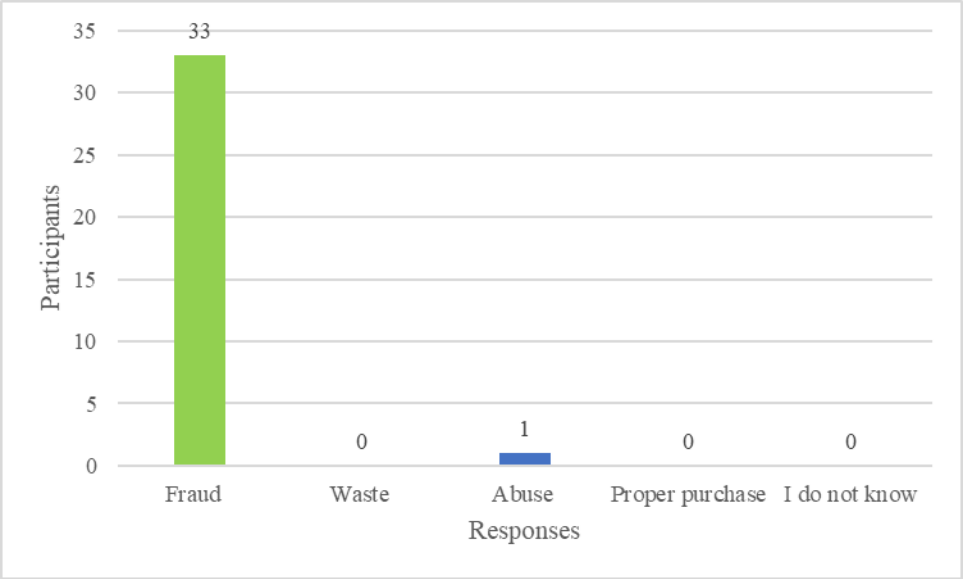


Figure 12. FWA LOK - Fraud Question 3 of 3: Distribution of Participant Responses

There were three "waste" LOK questions in the survey. All participants responded correctly to all three "waste" questions; therefore, no figures were shown.

There were two "abuse" questions in the LOK section. Figure 13 shows participants' responses for the first "abuse" question. Twenty-two (64.7%) participants responded correctly. Seven (20.6%) participants responded incorrectly with "waste." Three (8.8%) participants responded incorrectly with "proper purchase." One (2.9%) participant responded incorrectly with "fraud." One (2.9%) participant responded with "I do not know."

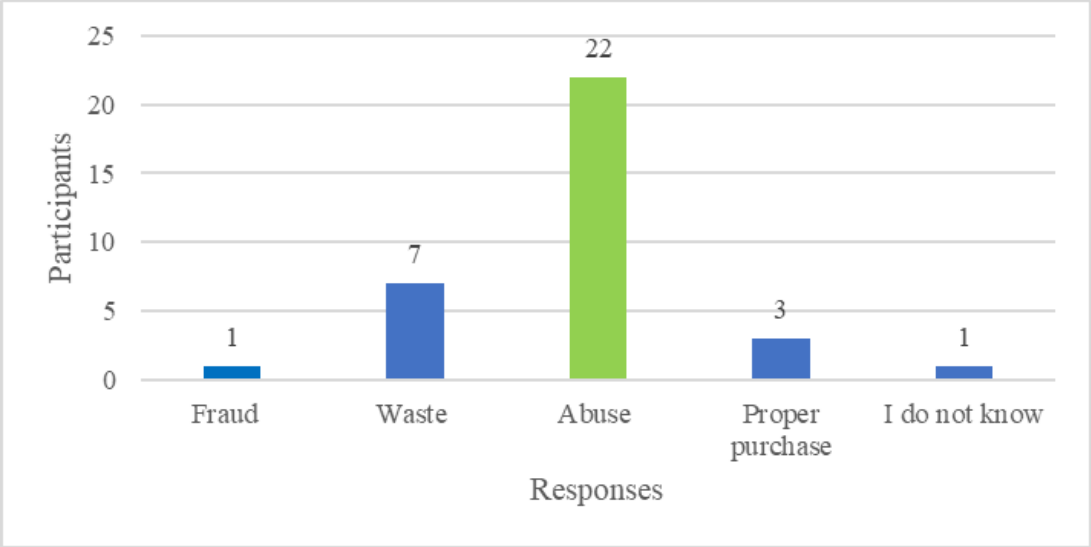


Figure 13. FWA LOK - Abuse Question 1 of 2: Distribution of Participant Responses

Figure 14 shows participants' responses for the second "abuse" question. Thirty (88.2%) participants responded correctly. Two (5.9%) participants responded incorrectly with "waste." One (2.9%) participant responded incorrectly with "proper purchase." One (2.9%) participant responded with "I do not know."

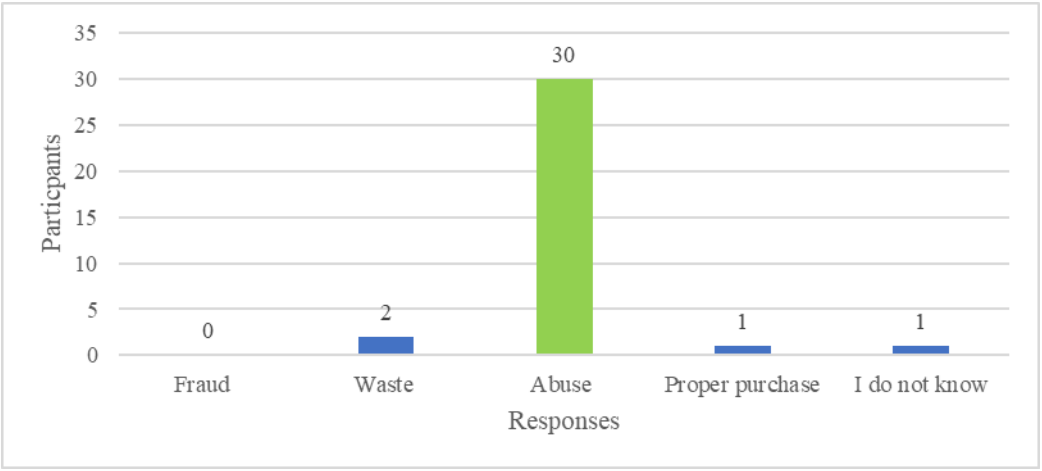


Figure 14. FWA LOK - Abuse Question 2 of 2: Distribution of Participant Responses

There were two "proper purchase" questions in the LOK section. Figure 15 shows participants' responses for the first "proper purchase" question. Eight (23.5%) participants responded correctly. Five (14.7%) participants responded incorrectly with "waste." Twenty-one (61.8%) participants responded incorrectly with "abuse."

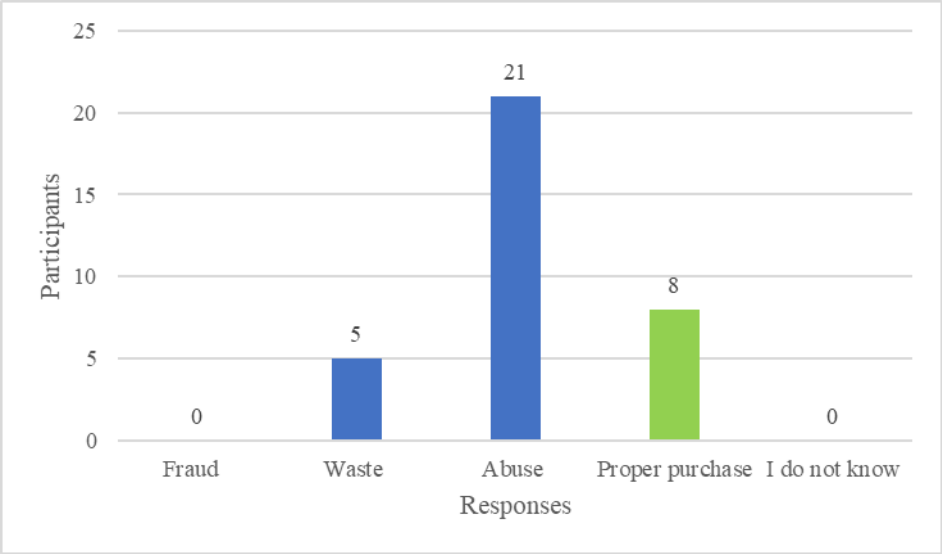


Figure 15. FWA LOK - Proper Purchase Question 1 of 2: Distribution of Participant Responses

Figure 16 shows participants' responses for the second "proper purchase" question. 28 (82.4%) participants responded correctly. Five (14.7%) participants responded incorrectly with "abuse." One (2.9%) participant responded with "I do not know."

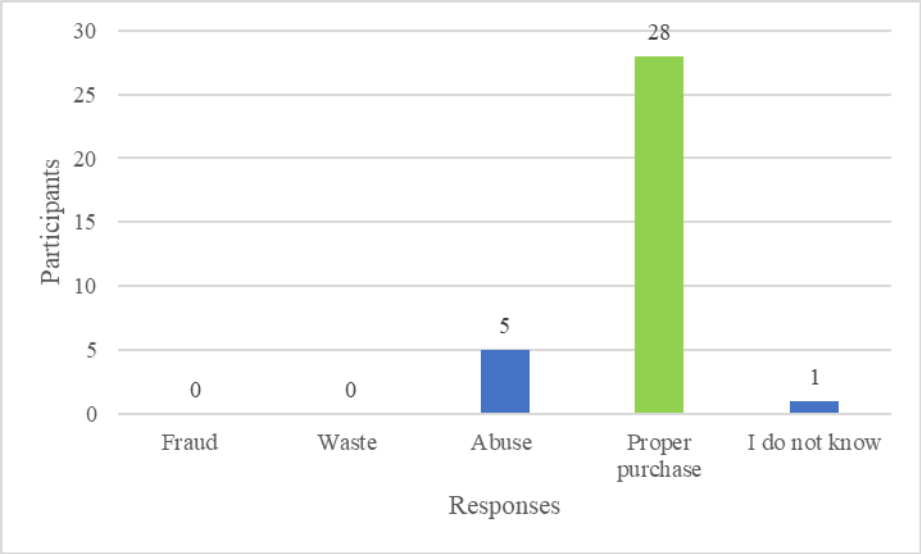


Figure 16. FWA LOK - Proper Purchase Question 2 of 2: Distribution of Participant Responses

The last two questions in the LOK section of the survey combined knowledge, training, internal controls, and audit processes. Figure 17 shows participants' responses for the first combination question. Twenty-eight (82.4%) participants responded correctly. Six (18.6%) participants responded incorrectly with "review every requirement."

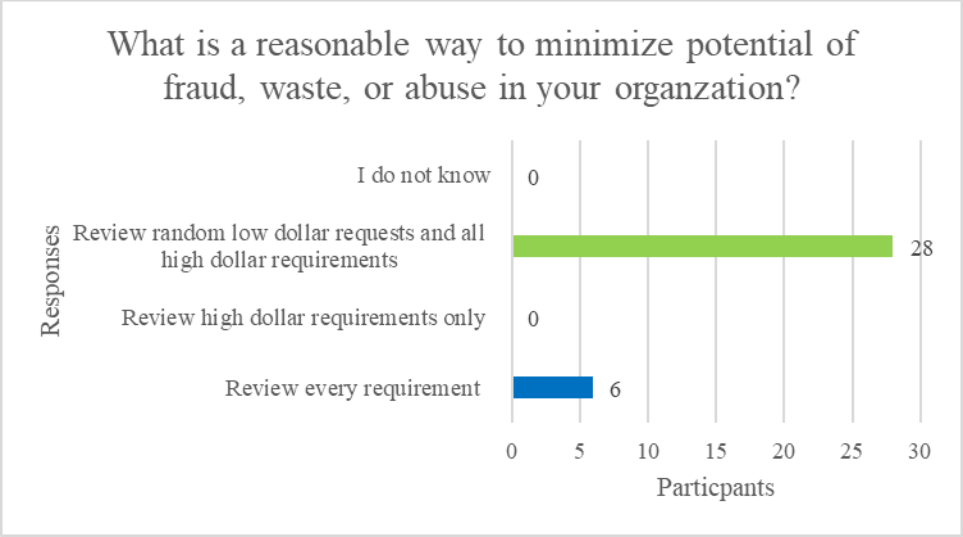


Figure 17. LOK, Training, Internal Controls, and Audit Processes Question 1 of 2: What is a reasonable way to minimize potential of FWA in your organization?

Figure 18 shows participants' responses for the second combination question. Thirty-three (97.1%) participants responded correctly. One (2.9%) participant responded incorrectly with "are found on an Allowance Parts List (APL) and are associated with an active job."

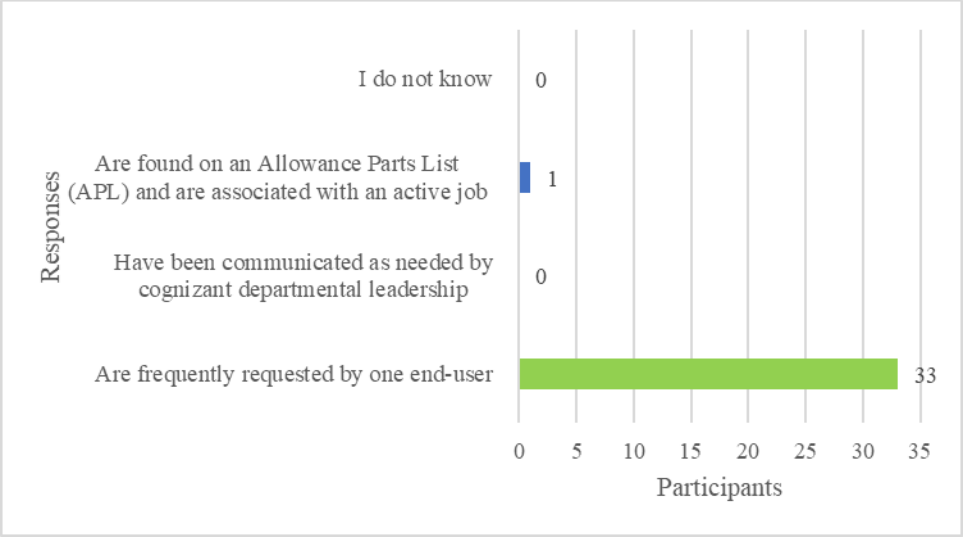


Figure 18. LOK, Training, Internal Controls, and Audit Processes Question 2 of 2: Items ordered that could potentially be for personal use or have resale value should most carefully be scrutinized when they do which of the following? Source: Chang (2013).

4. Organizational Perceptions

The third section of the survey measured the participants' perceptions of the sufficiency of FWA LOK, training, internal controls, and audit processes in their commands. Sufficiency is defined as having the appropriate amount of FWA LOK, training, internal controls, and audit processes to effectively execute OPTAR funds management. The participants were instructed to refer to a previous command they had been a part of to answer 40 perception questions. Thirty-eight of the 40 questions were based on a Likert Scale ranging from "strongly agree" to "strongly disagree" and included the response, "I do not know." Two of the 40 questions were multiple choice.

Table 2 shows how the questions were distributed amongst LOK, training, internal controls, and audit processes. Three of the questions were based on LOK as they related to OPTAR funds. Sixteen questions were based on training as they related to OPTAR funds. Fourteen questions were based on internal controls as they related to OPTAR funds. Seven questions were based on audit processes as they related to OPTAR funds.

Table 2. Types of Organizational Perceptions Questions

	Number of Questions
LOK	3
Training	16
Internal Controls	14
Audit Processes	7
Total	40

a. FWA LOK Perceptions

The FWA LOK sub-section of the survey included the participants' self-assessments of the sufficiency of their own OPTAR FWA LOK. The section also included the participants' responses to a perception question regarding FWA susceptibility in their commands.

Table 3 shows the participants' self-assessments of their own OPTAR FWA LOK. The first self-assessment question was OPTAR "fraud" LOK. Thirty (88.2%) participants responded with "agree" or "strongly agree." Three (8.8%) participants responded with "disagree." One (2.9%) participant responded with "neither agree nor disagree."

The second self-assessment question was OPTAR "waste" LOK. Thirty-two (94.1%) participants responded with "agree" or "strongly agree." One (2.9%) participant responded with "disagree." One (2.9%) participant responded with "neither agree nor disagree."

The third self-assessment question was for OPTAR "abuse" LOK. Twenty-nine (85.3%) participants responded with "agree" or "strongly agree." Three (8.8%) participants responded with "disagree." Two (5.9%) participants responded with "neither agree nor disagree."

Table 3. Organizational FWA - Participant Perceptions of FWA Level of Knowledge

	Strongly Agree	Agree	Disagree	Neither Agree nor Disagree
Sufficiency of Fraud LOK	20.6%	67.6%	8.8%	2.9%
	88.2%			
Sufficiency of Waste LOK	26.5%	67.6%	2.9%	2.9%
	94.1%			
Sufficiency of Abuse LOK	23.5%	61.8%	8.8%	5.9%
	85.3%			

Figure 19 shows the participants' responses to OPTAR FWA susceptibility in their commands. Fifteen (44.1%) participants responded that their organizations were susceptible to "abuse." Eighteen (52.9%) participants responded that their organizations were susceptible to "waste." One (2.9%) participant responded with "I do not suspect any fraud, waste, or abuse in my command."

Figure 19. Organizational FWA - Distribution of Participants' Perceptions of Command Susceptibility to FWA

b. Training Perceptions

The training perceptions sub-section of the survey included the participants' perceptions of the sufficiency of OPTAR FWA training received by their leading Logistics Specialists (LSs). The survey included questions measuring the participants' perceptions of the sufficiency of OPTAR FWA, internal controls, and audit training for their LSs. The survey also included the participants' perceptions of the sufficiency of OPTAR FWA, internal controls, and audit training that are incorporated in the training plans for their LSs and their Repair Parts Petty Officers (RPPOs).

The participants' perceptions of the sufficiency of their leading LSs' OPTAR FWA training are shown in Figure 20. Twenty-three (67.6%) participants responded with either "agree" or "strongly agree." Seven (20.6%) responded with "disagree" or "strongly disagree." Three (8.8%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

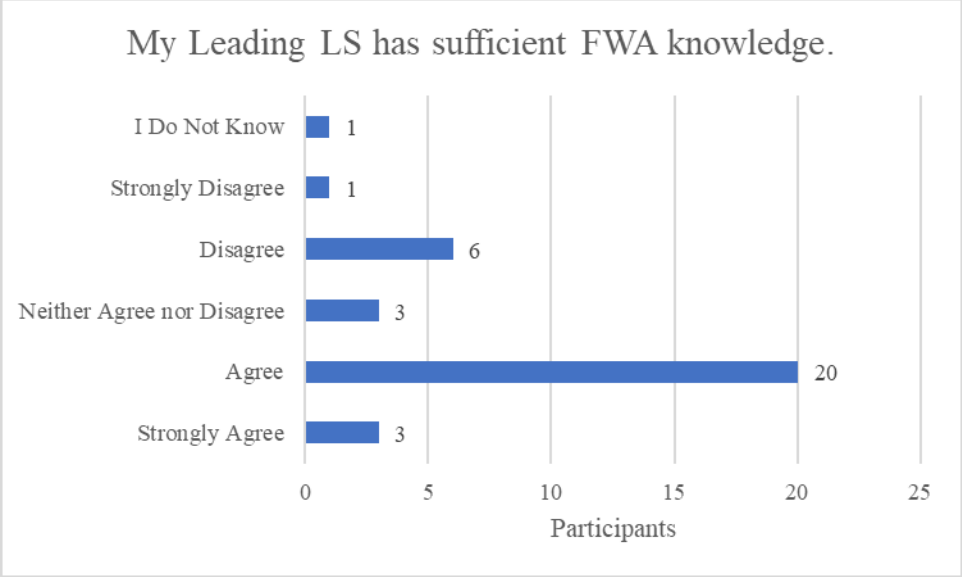


Figure 20. Organizational Training – Participant Perceptions of Training Sufficiency Regarding FWA for Leading LSs

The participants' perceptions of the sufficiency of their LSs' OPTAR FWA training are shown in Figure 21. For OPTAR "fraud" training, 17 (50%) participants responded

with “agree” or “strongly agree.” Eleven (32.4%) participants responded with “disagree” or “strongly disagree.” Five (14.7%) participants responded with “neither agree nor disagree.” One (2.9%) participant responded with “I do not know.”

For OPTAR “waste” training, 20 (58.8%) participants responded with “agree” or “strongly agree.” Eight (23.5%) participants responded with “disagree” or “strongly disagree.” Five (14.7%) participants responded with “neither agree nor disagree.” One (2.9%) participant responded with “I do not know.”

For OPTAR “abuse” training, 18 (52.9%) participants responded with “agree” or “strongly agree.” Eight (23.5%) participants responded with “disagree” or “strongly disagree.” Seven (20.6%) participants responded with “neither agree nor disagree.” One (2.9%) participant responded with “I do not know.”

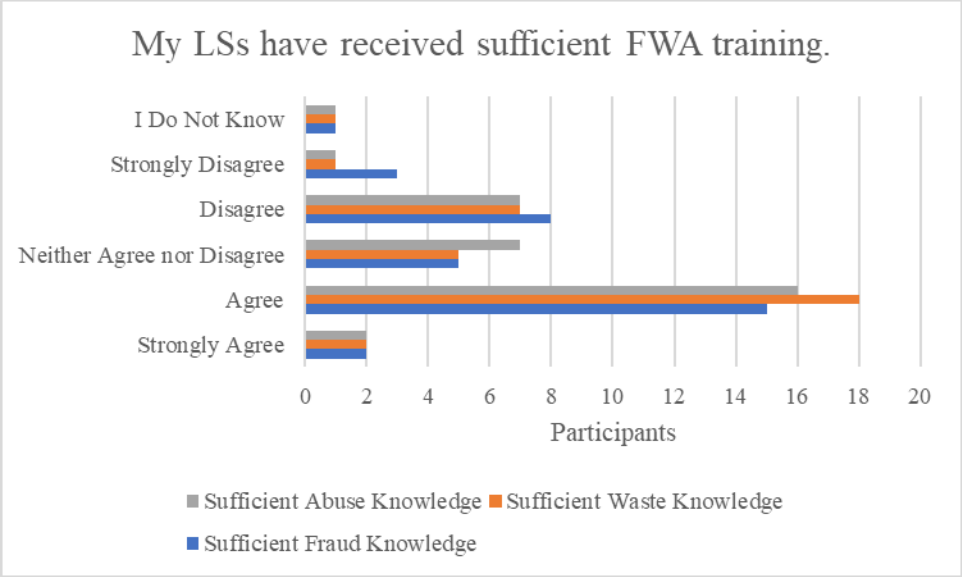


Figure 21. Organizational Training - Participant Perceptions of Training Sufficiency Regarding Identifying FWA for LSs

The participants’ perceptions of the sufficiency of their LSs’ OPTAR internal controls and audit processes training are shown in Table 4. For OPTAR internal controls training, 14 (41.2%) participants responded with “agree” or “strongly agree.” Seven (20.6%) participants responded with “disagree” or “strongly disagree.” Twelve (35.3%)

participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

For OPTAR audit processes training, 13 (38.3%) participants responded with "agree" or "strongly agree." Thirteen (38.3%) participants also responded with "disagree" or "strongly disagree." Seven (20.6%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

Table 4. Organizational Training – Participants' Perceptions of the Sufficiency of Internal Control (IC) and Audit Processes Training of LSs

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	I Do Not Know
Sufficiency of LS Training in Internal Controls	5.9%	35.3%	35.3%	14.7%	5.9%	2.9%
	41.2%			20.6%		
Sufficiency of LS Training in Audit Processes	5.9%	32.4%	20.6%	26.5%	11.8%	2.9%
	38.3%			38.3%		

The participants' perceptions of the sufficiency of incorporating OPTAR internal controls and audit processes in their LS training plans are shown in Table 5. For OPTAR internal controls training plans, 16 (47.1%) participants responded with "agree" or "strongly agree." Six (17.6%) participants responded with "disagree" or "strongly disagree." Eleven (32.4%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

For OPTAR audit processes training plans, 14 (41.2%) participants responded with "agree" or "strongly agree." Thirteen (38.2%) participants responded with "disagree" or "strongly disagree." Six (17.6%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

Table 5. Organizational Training – Participants' Perceptions of the Sufficiency of Internal Controls and Audit Processes in LS Training Plans

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	I Do Not Know
LS Training Plan Includes Internal Controls	5.9%	41.2%	32.4%	8.8%	8.8%	2.9%
	47.1%			17.6%		
LS Training Plan Includes Audit Processes	8.8%	32.4%	17.6%	35.3%	2.9%	2.9%
	41.2%			38.2%		

The participants' perceptions of the sufficiency of incorporating OPTAR FWA in their LS training plans are shown in Table 6. For OPTAR fraud training plans, 14 (41.2%) participants responded with "agree" or "strongly agree." Seven (20.6%) participants responded with "disagree" or "strongly disagree." Twelve (35.3%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

For OPTAR waste training plans, 16 (47.1%) participants responded with "agree" or "strongly agree." Six (17.6%) participants responded with "disagree" or "strongly disagree." Eleven (32.4%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

For OPTAR abuse training plans, 14 (41.2%) participants responded with "agree" or "strongly agree." Five (14.7%) participants responded with "disagree" or "strongly disagree." Fourteen (41.2%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

Table 6. Organizational Training – Participants' Perceptions of LS FWA Training Incorporated in Training Plans

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	I Do Not Know
LS Training Plans Include Fraud	5.9%	35.3%	35.3%	14.7%	5.9%	2.9%
	41.2%			20.6%		
LS Training Plans Include Waste	5.9%	41.2%	32.4%	8.8%	8.8%	2.9%
	47.1%			17.6%		
LS Training Plans Include Abuse	5.9%	35.3%	41.2%	5.9%	8.8%	2.9%
	41.2%			14.7%		

The participants' perceptions of the sufficiency of incorporating OPTAR FWA in their RPPO training plans are shown in Table 7. For OPTAR fraud training plans, 12 (35.3%) participants responded with "agree" or "strongly agree." Fourteen (41.2%) participants responded with "disagree" or "strongly disagree." Seven (20.6%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

For OPTAR waste training plans, 15 (44.2%) participants responded with "agree" or "strongly agree." Nine (26.5%) participants responded with "disagree" or "strongly disagree." Nine (26.5%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

For OPTAR abuse training plans, 15 (44.2%) participants responded with "agree" or "strongly agree." Eight (23.5%) participants responded with "disagree" or "strongly disagree." Ten (29.4%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

Table 7. Organizational Training – Participants' Perceptions of RPPO FWA Training Incorporated in Training Plans

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	I Do Not Know
RPPO Training Plans Include Fraud	11.8%	23.5%	20.6%	14.7%	26.5%	2.9%
	35.3%			41.2%		
RPPO Training Plans Include Waste	11.8%	32.4%	26.5%	14.7%	11.8%	2.9%
	44.2%			26.5%		
RPPO Training Plans Include Abuse	11.8%	32.4%	29.4%	14.7%	8.8%	2.9%
	44.2%			23.5%		

The participants' perceptions of the sufficiency of incorporating OPTAR internal controls in their RPPO training plans are shown in Figure 22. Eleven (32.4%) participants responded with "agree" or "strongly agree." Sixteen (47.1%) participants responded with "disagree" or "strongly disagree." Six (17.6%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

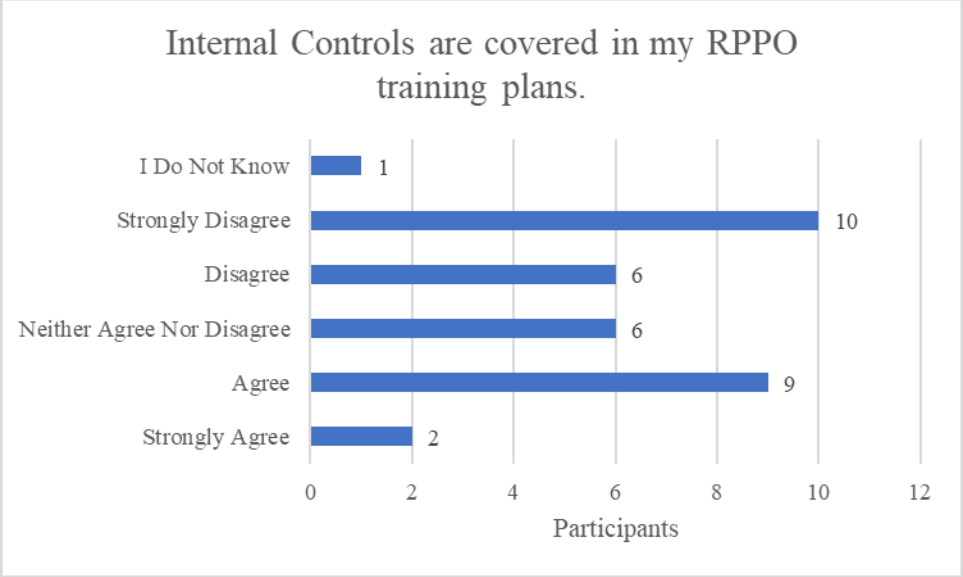


Figure 22. Organizational Training - Distribution of Participant Perceptions of Incorporating Internal Controls in RPPO Training Plans

The participants' perceptions of the sufficiency of incorporating OPTAR audit processes in their RPPO training plans are shown in Figure 23. Nine (26.5%) participants responded with "agree" or "strongly agree." Eighteen (52.9%) participants responded with "disagree" or "strongly disagree." Six (17.6%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

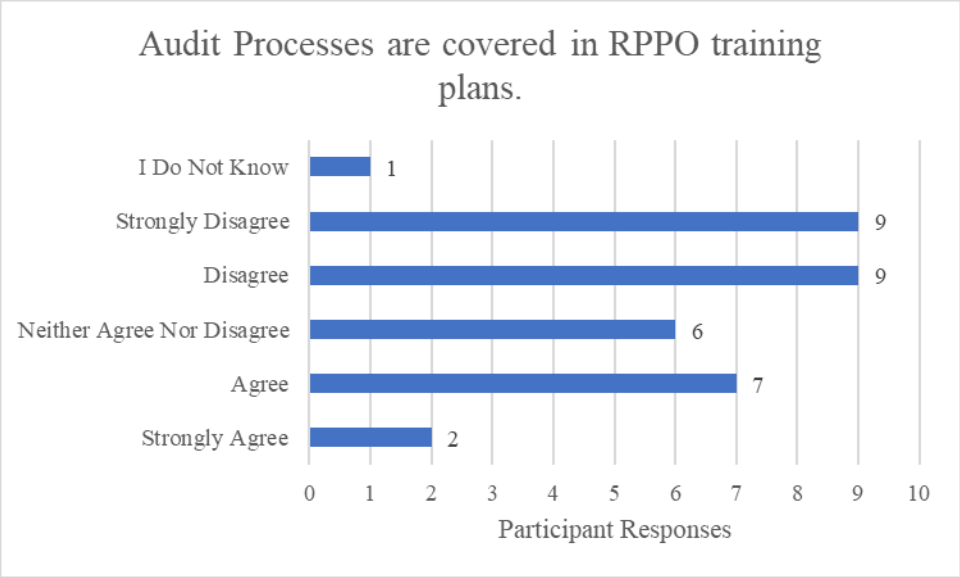


Figure 23. Organizational Training - Distribution of Participants' Perceptions of Incorporating Audit Processes in RPPO Training Plans

c. Internal Controls Perceptions

The internal controls sub-section of the survey included reporting OPTAR FWA inside and outside Navy commands, the sufficiency of internal command investigations, and holding personnel accountable for OPTAR FWA violations. This section assessed whether commands emphasized integrity, ethical conduct, fairness, and honesty across their organization. The participants were also questioned if they had clear lines of authority and responsibility in their departments, whether they would report OPTAR FWA if they suspected it, and what participants perceived to be the most vulnerable component of internal controls in their commands (Chang, 2013). Participants were also questioned about how internal controls could be challenged in their commands.

The participants were questioned if they knew how to report OPTAR FWA outside of their supervisors and their commands (Figure 24) (Chang, 2013). When questioned if they knew how to report OPTAR FWA outside of their supervisors, 11 (32.4%) participants responded with "strongly agree." Fifteen (44.1%) participants responded with "agree." Three (8.8%) participants responded with "disagree." Five (14.7%) participants responded with "neither agree nor disagree."

When the participants were questioned if they knew how to report OPTAR FWA outside of their commands, 11 (32.4%) participants responded with "strongly agree." Eight (23.5%) participants responded with "agree." Three (8.8%) participants responded with "disagree." Twelve (35.3%) participants responded with "neither agree nor disagree."

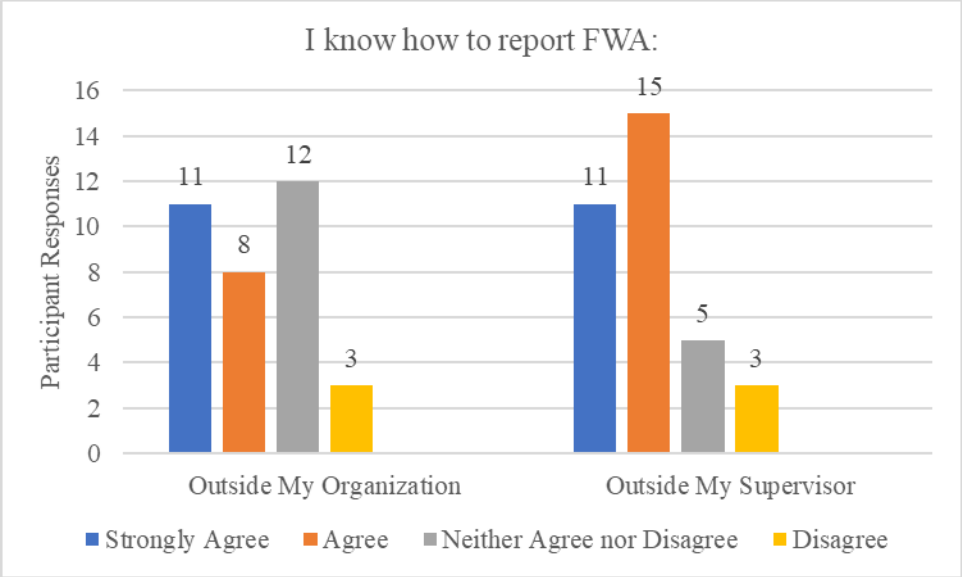


Figure 24. Organizational IC - Distribution of Participant Perceptions of Knowing How to Report FWA. Source: Chang (2013).

The participants were questioned if they perceived that their commands sufficiently investigated occurrences of OPTAR FWA and whether their commands would hold violators accountable (Figure 25) (Chang, 2013). When the participants were questioned whether they perceived that their commands sufficiently investigated occurrences of OPTAR FWA, 13 (38.2%) participants responded with "agree" or "strongly agree."

Thirteen (38.2%) participants responded with "disagree" or "strongly disagree." Eight (23.5%) participants responded with "neither agree nor disagree."

When the participants were questioned whether they perceived that their commands would sufficiently hold violators of OPTAR FWA accountable, 17 (50%) participants responded with "agree" or "strongly agree." Six (17.6%) participants responded with "disagree" or "strongly disagree." Ten (29.4%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

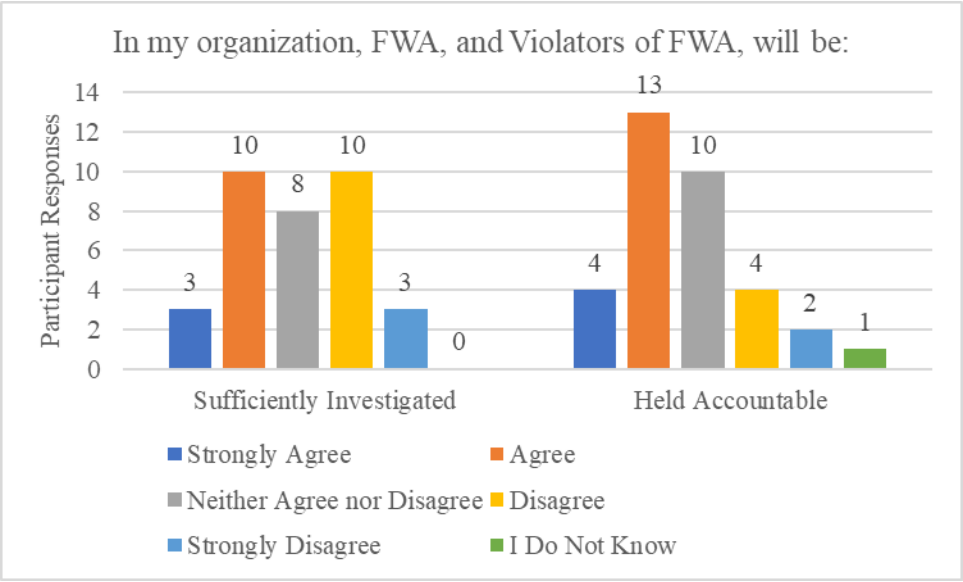


Figure 25. Organizational IC - Distribution of Participant Perceptions of Sufficiency of Organization Investigating FWA and Holding Violators Accountable. Source: Chang (2013).

The participants were questioned whether they perceived that their commands sufficiently emphasized ethical behavior in dealings with fellow Sailors, other commands, and outside organizations (Figure 26). When the participants were questioned whether they perceived that their commands sufficiently ethical behavior in dealings with fellow Sailors, 27 (79.4%) participants responded with "agree" or "strongly agree." One (2.9%) participant responded with "disagree." Six (17.6%) participants responded with "neither agree nor disagree."

When the participants were questioned whether they perceived that their commands emphasized ethical behavior in dealings with other commands, 25 (73.5%) participants responded with "agree" or "strongly agree." Two (5.9%) participants responded with "disagree" or "strongly disagree." Seven (20.6%) participants responded with "neither agree nor disagree."

When the participants were questioned whether they perceived that their commands emphasized ethical behavior in dealings with outside organizations, 25 (73.5%) participants responded with "agree" or "strongly agree." Two (5.9%) participants responded with "disagree." Seven (20.6%) participants responded with "neither agree nor disagree."

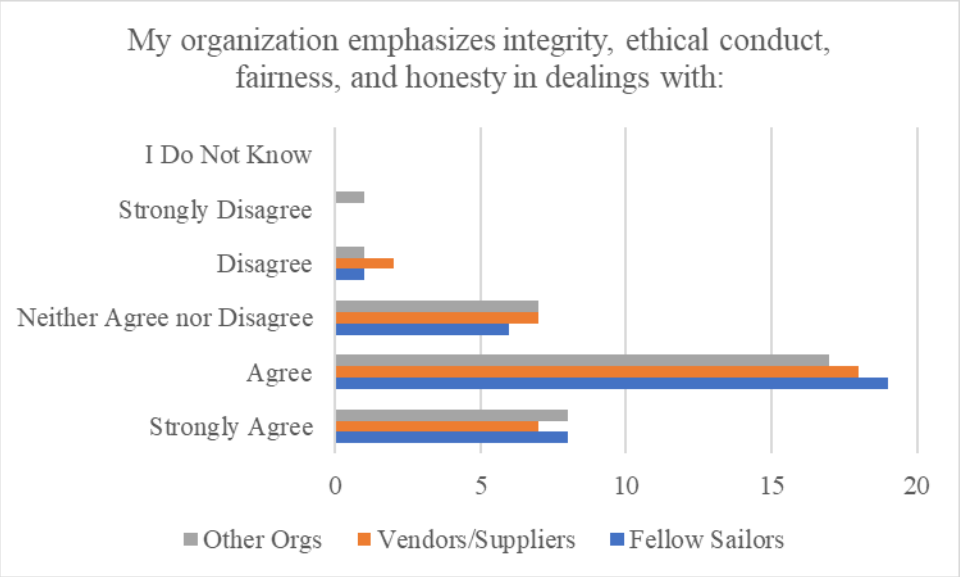


Figure 26. Organizational IC - Distribution of Participant Perceptions of Sufficiency of Organization Emphasizing Integrity, Ethical Conduct, Fairness and Honesty in Dealing with Fellow Sailors, Vendors/Suppliers, and Other Organizations. Source: Chang (2013).

The participants were questioned whether they perceived they had clear lines of authority and responsibility (Figure 27) (Chang, 2013). Thirty-one (91.2%) participants responded with "agree" or "strongly agree." Three (8.8%) participants responded with "neither agree nor disagree."

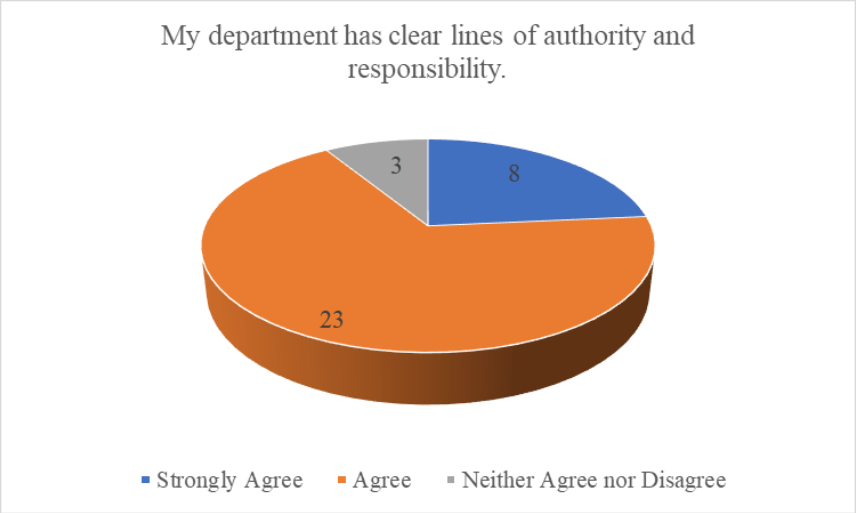


Figure 27. Organizational IC - Distribution of Participant Perceptions of Sufficiency of Clear Lines of Authority and Responsibility in the Organization. Source: Chang (2013).

The participants were questioned whether they would report OPTAR FWA if they suspected it in their command (Figure 28) (Chang, 2013). Twenty-nine (85.3%) participants responded with "agree" or "strongly agree." Four (11.8%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "strongly disagree."

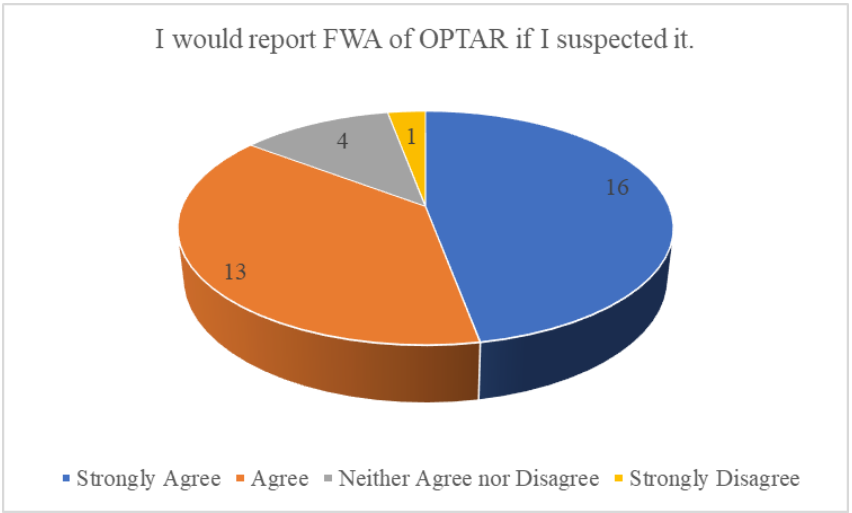


Figure 28. Organizational IC - Distribution of Participants Who Say They Would Report FWA if Suspected. Source: Chang (2013).

The participants were questioned what OPTAR internal control component was most vulnerable in their command (Figure 29). Seven (20.6%) participants responded with "control environment." One (2.9%) participant responded with "risk assessment." Fourteen (41.2%) participants responded with "control activities." Two (5.9%) participants responded with "information and communication." Seven (20.6%) participants responded with "monitoring activities." Three (8.8%) participants responded with "no suspected vulnerabilities."

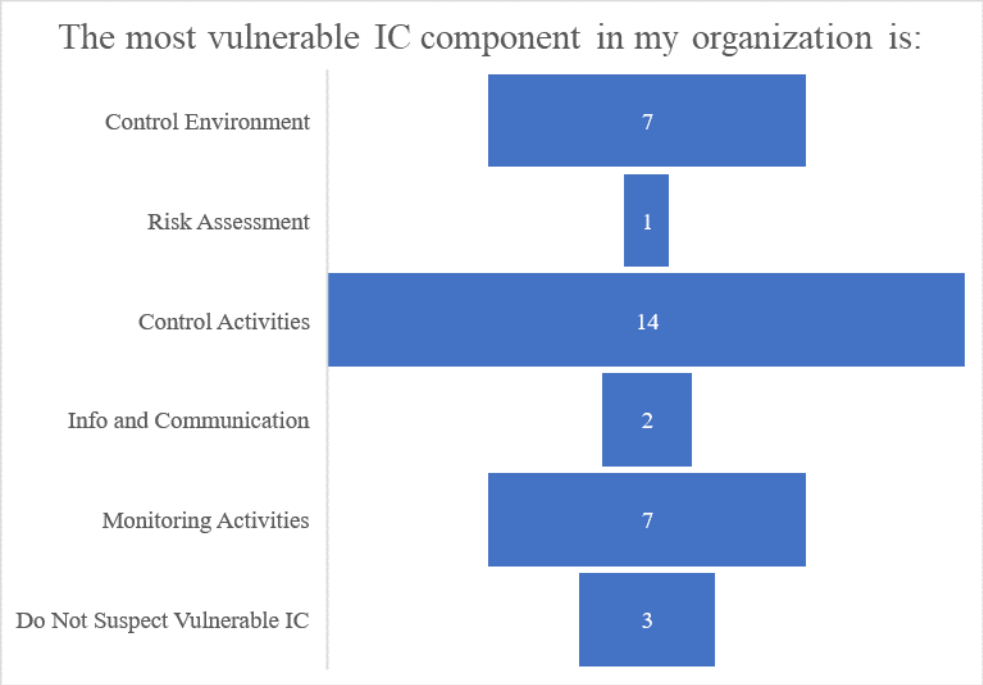


Figure 29. Organizational IC – Perceptions of the Most Vulnerable IC Component in the Organization

The participants were asked to respond to three practical examples of OPTAR internal controls (Table 8). The first question related to whether RPPOs could change nomenclatures of requested items (to hide what they were ordering). Eight (24.2%) participants responded with "agree" or "strongly agree." Eighteen (54.6%) participants responded with "disagree" or "strongly disagree." Three (9.1%) participants responded

with "neither agree nor disagree." Four (12.1%) participants responded with "I do not know."

The second question related to whether RPPOs would change the nomenclature if they were given the opportunity. Fourteen (41.2%) participants responded with "agree" or "strongly agree." Seven (20.6%) participants responded with "disagree" or "strongly disagree." Ten (29.4%) participants responded with "neither agree nor disagree." Three (8.8%) participants responded with "I do not know."

The third question related to whether the LSs would catch the attempted change during the technical verification in RSUPPLY. Eighteen (53%) participants responded with "agree" or "strongly agree." Seven (20.6%) participants responded with "disagree" or "strongly disagree." Seven (20.6%) participants responded with "neither agree nor disagree." Two (5.9%) participants responded with "I do not know."

Table 8. Organizational IC - Participant Perceptions of Internal Controls Detecting Attempts at Changing Nomenclatures When Ordering Products

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	I Do Not Know
RPPO scan change nomenclatures in RSUPPLY	3.0%	21.2%	9.1%	9.1%	45.5%	12.1%
	24.2%			54.6%		
RPPOs would change if given opportunity	14.7%	26.5%	29.4%	5.9%	14.7%	8.8%
	41.2%			20.6%		
LSs would catch the attempted change	5.9%	47.1%	20.6%	11.8%	8.8%	5.9%
	53%			20.6%		

d. Audit Process Perceptions

The audit processes sub-section of the survey included the participants' perceptions of whether their departments were sufficiently audited by internal and external auditors (Chang, 2013). The sub-section included the participants' perceptions of whether the

Financial Improvement and Audit Remediation (FIAR) guidance sufficiently helped detect or deter OPTAR FWA. Finally, the sub-section included the participants' perception of whether FIAR helped Navy Supply Corps Officers and their Logistics Specialists understand internal controls or audit processes.

Figure 30 shows participants' responses as to the perceptions of the sufficiency of their departments being regularly audited by internal or external auditors (Chang, 2013). For internal audits, 16 (47.1%) participants responded with "agree" or "strongly agree." Eleven (32.4%) participants responded with "disagree" or "strongly disagree." Six (17.6%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

For external audits, 19 (55.9%) participants responded with "agree" or "strongly agree." Eight (23.5%) participants responded with "disagree" or "strongly disagree." Six (17.6%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

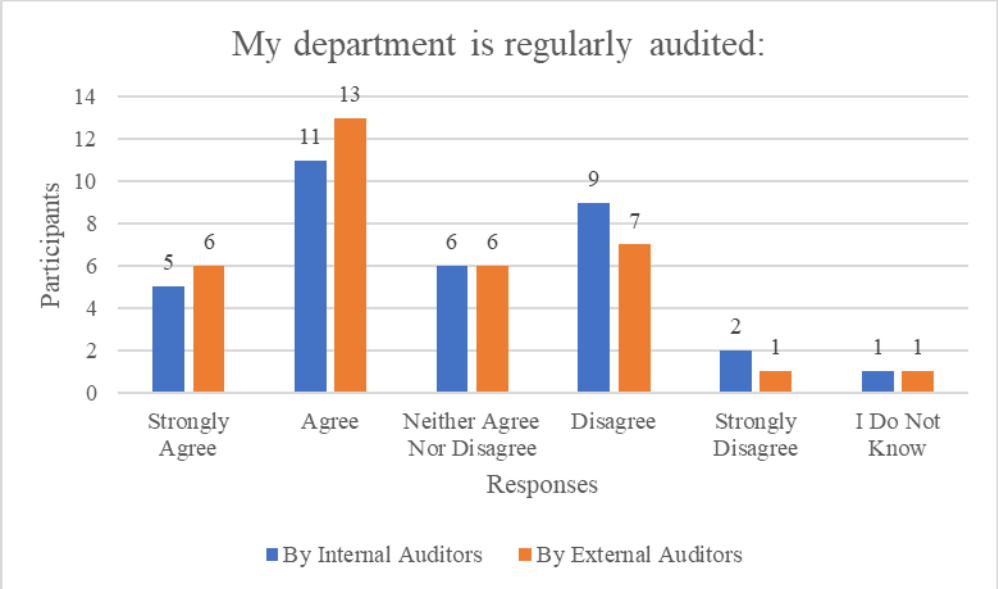


Figure 30. Organizational Audit - Distribution of Participants Who Say They Are Regularly Audited by Internal and External Sources. Source: Chang (2013).

The participants' perceptions of whether FIAR sufficiently helped detect or deter OPTAR FWA and helped the participants understand OPTAR internal controls and audit processes are shown in Table 9. When questioned whether FIAR helped detect or deter OPTAR fraud, five (14.7%) participants responded with "agree" or "strongly agree." Twenty (58.8%) participants responded with "disagree" or "strongly disagree." Nine (26.5%) participants responded with "neither agree nor disagree."

When the participants were questioned whether FIAR helped detect or deter OPTAR waste, four (11.7%) participants responded with "agree" or "strongly agree." Twenty-one (61.7%) participants responded with "disagree" or "strongly disagree." Nine (26.5%) participants responded with "neither agree nor disagree."

When the participants were questioned whether FIAR helped detect or deter OPTAR abuse, five (15.2%) participants responded with "agree" or "strongly agree." Twenty (60.6%) participants responded with "disagree" or "strongly disagree." Eight (24.2%) participants responded with "neither agree nor disagree."

When the participants were questioned whether FIAR helped Navy Supply Corps Officers and their Logistics Specialists understand OPTAR internal controls, nine (26.5%) participants responded with "agree" or "strongly agree." Twelve (35.3%) participants responded with "disagree" or "strongly disagree." Twelve (35.3%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

When the participants were questioned whether FIAR helped Navy Supply Corps Officers and their Logistics Specialists understand OPTAR audit processes, eight (23.5%) participants responded with "agree" or "strongly agree." Eleven (32.3%) participants responded with "disagree" or "strongly disagree." Fourteen (41.2%) participants responded with "neither agree nor disagree." One (2.9%) participant responded with "I do not know."

Table 9. Organizational Audit – Participant Perceptions that Financial Improvement and Audit Remediation (FIAR) Guidance is Sufficient in Detecting/Deterring OPTAR FWA and Helped their Understanding of Internal Controls and Auditability Processes

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	I Do Not Know
Audit FIAR Helps Detect/Deter Fraud	5.9%	8.8%	26.5%	35.3%	23.5%	0.0%
	14.7%			58.8%		
Audit FIAR Helps Detect/Deter Waste	2.9%	8.8%	26.5%	38.2%	23.5%	0.0%
	11.7%			61.7%		
Audit FIAR Helps Detect/Deter Abuse	6.1%	9.1%	24.2%	36.4%	24.2%	0.0%
	15.2%			60.6%		
Audit FIAR Helps Understanding of IC	5.9%	20.6%	35.3%	14.7%	20.6%	2.9%
	26.5%			35.3%		
Audit FIAR Helps Understanding of Audit Process	5.9%	17.6%	41.2%	14.7%	17.6%	2.9%
	23.5%			32.3%		

5. Services and Programs

The fourth section of the survey consisted of three questions regarding services and programs that help the Supply Officers and Logistics Specialists manage OPTAR funds. The questions were based on Likert Scales and measured familiarity, training received, and frequency of use.

Table 10 shows the participants' familiarity with the services and programs. For the Command Financial Management System (CFMS), two (5.9%) participants responded with "extremely familiar." Five (14.7%) participants responded with "very familiar." Ten (29.4%) participants responded with "moderately familiar." Seven (20.6%) participants responded with "slightly familiar." Four (11.8%) participants responded with "not familiar at all." Five (14.7%) participants responded with "never heard of it." One (2.9%) participant responded with "I do not know."

For the Continuous Monitoring Program (CMP), 14 (41.2%) participants responded with “extremely familiar.” Sixteen (47.1%) participants responded with “very familiar.” Three (8.8%) participants responded with “moderately familiar.” One (2.9%) participant responded with “slightly familiar.”

For the Defense Reutilization Marketing Office (DRMO) program, 13 (38.2%) participants responded with “extremely familiar.” Ten (29.4%) participants responded with “very familiar.” Seven (20.6%) participants responded with “moderately familiar.” Four (11.8%) participants responded with “slightly familiar.”

For the Federal Logistics (FEDLOG) software, 25 (73.5%) participants responded with “extremely familiar.” Eight (23.5%) participants responded with “very familiar.” One (2.9%) participant responded with “slightly familiar.”

For the Government Commercial Purchase Card (GCPC) program, 18 (52.9%) participants responded with “extremely familiar.” Fifteen (44.1%) participants responded with “very familiar.” One (2.9%) participant responded with “moderately familiar.”

For the General Services Administration (GSA) agency, 15 (44.1%) participants responded with “extremely familiar.” Nine (26.5%) participants responded with “very familiar.” Nine (26.5%) participants responded with “moderately familiar.” One (2.9%) participant responded with “slightly familiar.”

For the Haystack program, five (14.7%) participants responded with “extremely familiar.” Eight (23.5%) participants responded with “very familiar.” Six (17.6%) participants responded with “moderately familiar.” Seven (20.6%) participants responded with “slightly familiar.” Six (17.6%) participants responded with “not familiar at all.” Two (5.9%) participants responded with “never heard of it.”

For the Material Turned in to Stores (MTIS) program, eleven (32.4%) participants responded with “extremely familiar.” Five (14.7%) participants responded with “very familiar.” Six (17.6%) participants responded with “moderately familiar.” Seven (20.6%) participants responded with “slightly familiar.” Five (14.7%) participants responded with “not familiar at all.”

For the Naval Aviation Logistics Command Management Information System (NALCOMIS) software, nine (26.5%) participants responded with “extremely familiar.” Twelve (35.3%) participants responded with “very familiar.” Four (11.8%) participants responded with “moderately familiar.” Three (8.8%) participants responded with “slightly familiar.” Six (17.6%) participants responded with “not familiar at all.”

For the Organization Maintenance Management System-Next Generation (OMMS-NG) software, 19 (55.9%) participants responded with “extremely familiar.” Twelve (35.3%) participants responded with “very familiar.” Three (8.8%) participants responded with “moderately familiar.”

For the One Touch Support (OTS) system, 24 (70.6%) participants responded with “extremely familiar.” Eight (23.5%) participants responded with “very familiar.” One (2.9%) participant responded with “moderately familiar.” One (2.9%) participant responded with “slightly familiar.”

For the Relational Supply (RSUPPLY) software, 23 (67.6%) participants responded with “extremely familiar.” Ten (29.4%) participants responded with “very familiar.” One (2.9%) participant responded with “moderately familiar.”

For the Standard Accounting, Budgeting, and Reporting System (SABRS), one (2.9%) participant responded with “extremely familiar.” Five (14.7%) participants responded with “very familiar.” Seven (20.6%) participants responded with “moderately familiar.” Nine (26.5%) participants responded with “slightly familiar.” Ten (29.4%) participants responded with “not familiar at all.” Two (5.9%) participants responded with “never heard of it.”

Table 10. Participant Familiarity with Services and Programs

	Extremely Familiar	Very Familiar	Moderately Familiar	Slightly Familiar	Not Familiar at All	Never Heard of It	I Do Not Know
Command Financial Management System (CFMS)	5.9%	14.7%	29.4%	20.6%	11.8%	14.7%	2.9%
Continuous Monitoring Program (CMP)	41.2%	47.1%	8.8%	2.9%	0.0%	0.0%	0.0%
Defense Reutilization Marketing Office (DRMO)	38.2%	29.4%	20.6%	11.8%	0.0%	0.0%	0.0%
Federal Logistics (FEDLOG)	73.5%	23.5%	0.0%	2.9%	0.0%	0.0%	0.0%
Government Commercial Purchase Card (GCPC)	52.9%	44.1%	2.9%	0.0%	0.0%	0.0%	0.0%
General Services Administration (GSA)	44.1%	26.5%	26.5%	2.9%	0.0%	0.0%	0.0%
Haystack	14.7%	23.5%	17.6%	20.6%	17.6%	5.9%	0.0%
Material Turned in to Stores (MTIS)	32.4%	14.7%	17.6%	20.6%	14.7%	0.0%	0.0%
Naval Aviation Logistics Command Management Information System (NALCOMIS)	26.5%	35.3%	11.8%	8.8%	17.6%	0.0%	0.0%
Organization Maintenance Management System-Next Generation (OMMS-NG)	55.9%	35.3%	8.8%	0.0%	0.0%	0.0%	0.0%
One Touch Support (OTS)	70.6%	23.5%	2.9%	2.9%	0.0%	0.0%	0.0%
Relational Supply (RSUPPLY)	67.6%	29.4%	2.9%	0.0%	0.0%	0.0%	0.0%
Standard Accounting, Budgeting, and Reporting System (SABRS)	2.9%	14.7%	20.6%	26.5%	29.4%	5.9%	0.0%

Table 11 shows the amount of training participants have received for the services and programs. For the Command Financial Management System (CFMS), two (5.9%) participants responded with "completely sufficient." Two (5.9%) participants responded with "moderately sufficient." Five (14.7%) participants responded with "slightly sufficient." Sixteen (47.1%) participants responded with "not at all sufficient." Seven (20.6%) participants responded with "never heard of it." Two (5.9%) participants responded with "I do not know."

For the Continuous Monitoring Program (CMP), six (17.6%) participants responded with "completely sufficient." Two (5.9%) participants responded with "very sufficient." Ten (29.4%) participants responded with "moderately sufficient." Fourteen (41.2%) participants responded with "slightly sufficient." Two (5.9%) participants responded with "not at all sufficient."

For the Defense Reutilization Marketing Office (DRMO) program, five (14.7%) participants responded with "completely sufficient." Two (5.9%) participants responded with "very sufficient." Five (14.7%) participants responded with "moderately sufficient." Fifteen (44.1%) participants responded with "slightly sufficient." Seven (20.6%) participants responded with "not at all sufficient."

For the Federal Logistics (FEDLOG) software, seven (20.6%) participants responded with "completely sufficient." Seven (20.6%) participants responded with "very sufficient." Twelve (35.3%) participants responded with "moderately sufficient." Six (17.6%) participants responded with "slightly sufficient." Two (5.9%) participants responded with "not at all sufficient."

For the Government Commercial Purchase Card (GCPC) program, ten (29.4%) participants responded with "completely sufficient." Nine (26.5%) participants responded with "very sufficient." Twelve (35.3%) participants responded with "moderately sufficient." Three (8.8%) participants responded with "slightly sufficient."

For the General Services Administration (GSA) agency, six (17.6%) participants responded with "completely sufficient." Five (14.7%) participants responded with "very sufficient." Five (14.7%) participants responded with "moderately sufficient." Thirteen

(38.2%) participants responded with “slightly sufficient.” Five (14.7%) participants responded with “not at all sufficient.”

For the Haystack program, two (5.9%) participants responded with “completely sufficient.” Three (8.8%) participants responded with “very sufficient.” Two (5.9%) participants responded with “moderately sufficient.” Seven (20.6%) participants responded with “slightly sufficient.” Fifteen (44.1%) participants responded with “not at all sufficient.” Five (14.7%) participants responded with “never heard of it.”

For the Material Turned in to Stores (MTIS) program, three (9.1%) participants responded with “completely sufficient.” Four (12.1%) participants responded with “very sufficient.” Four (12.1%) participants responded with “moderately sufficient.” Eleven (33.3%) participants responded with “slightly sufficient.” Eleven (33.3%) participants responded with “not at all sufficient.”

For the Naval Aviation Logistics Command Management Information System (NALCOMIS) software, five (14.7%) participants responded with “completely sufficient.” Three (8.8%) participants responded with “very sufficient.” Eight (23.5%) participants responded with “moderately sufficient.” Nine (26.5%) participants responded with “slightly sufficient.” Eight (23.5%) participants responded with “not at all sufficient.” One (2.9%) participant responded with “I do not know.”

For the Organization Maintenance Management System-Next Generation (OMMS-NG) software, nine (26.5%) participants responded with “completely sufficient.” Eleven (32.4%) participants responded with “very sufficient.” Eight (23.5%) participants responded with “moderately sufficient.” Five (14.7%) participants responded with “slightly sufficient.” One (2.9%) participant responded with “not at all sufficient.”

For the One Touch Support (OTS) system, 11 (32.4%) participants responded with “completely sufficient.” Six (17.6%) participants responded with “very sufficient.” Ten (29.4%) participants responded with “moderately sufficient.” Six (17.6%) participants responded with “slightly sufficient.” One (2.9%) participant responded with “not at all sufficient.”

For the Relational Supply (RSUPPLY) software, 15 (44.1%) participants responded with “completely sufficient.” Five (14.7%) participants responded with “very sufficient.” Eight (23.5%) participants responded with “moderately sufficient.” Five (14.7%) participants responded with “slightly sufficient.” One (2.9%) participant responded with “not at all sufficient.”

For the Standard Accounting, Budgeting, and Reporting System (SABRS), three (8.8%) participants responded with “completely sufficient.” One (2.9%) participant responded with “very sufficient.” One (2.9%) participant responded with “moderately sufficient.” Seven (20.6%) participants responded with “slightly sufficient.” Nineteen (55.9%) participants responded with “not at all sufficient.” Two (5.9%) participants responded with “never heard of it.” One (2.9%) participant responded with “I do not know.”

Table 11. Participant Services and Programs Training Received

	Completely Sufficient	Very Sufficient	Moderately Sufficient	Slightly Sufficient	Not at All Sufficient	Never Heard of It	I Do Not Know
Command Financial Management System (CFMS)	5.9%	0.0%	5.9%	14.7%	47.1%	20.6%	5.9%
Continuous Monitoring Program (CMP)	17.6%	5.9%	29.4%	41.2%	5.9%	0.0%	0.0%
Defense Reutilization Marketing Office (DRMO)	14.7%	5.9%	14.7%	44.1%	20.6%	0.0%	0.0%
Federal Logistics (FEDLOG)	20.6%	20.6%	35.3%	17.6%	5.9%	0.0%	0.0%
Government Commercial Purchase Card (GCPC)	29.4%	26.5%	35.3%	8.8%	0.0%	0.0%	0.0%
General Services Administration (GSA)	17.6%	14.7%	14.7%	38.2%	14.7%	0.0%	0.0%
Haystack	5.9%	8.8%	5.9%	20.6%	44.1%	14.7%	0.0%
Material Turned in to Stores (MTIS)	9.1%	12.1%	12.1%	33.3%	33.3%	0.0%	0.0%
Naval Aviation Logistics Command Management Information System (NALCOMIS)	14.7%	8.8%	23.5%	26.5%	23.5%	0.0%	2.9%
Organization Maintenance Management System-Next Generation (OMMS-NG)	26.5%	32.4%	23.5%	14.7%	2.9%	0.0%	0.0%
One Touch Support (OTS)	32.4%	17.6%	29.4%	17.6%	2.9%	0.0%	0.0%
Relational Supply (RSUPPLY)	44.1%	14.7%	23.5%	14.7%	2.9%	0.0%	0.0%
Standard Accounting, Budgeting, and Reporting System (SABRS)	8.8%	2.9%	2.9%	20.6%	55.9%	5.9%	2.9%

Table 12 shows the participants' frequency of use for the services and programs. For the Command Financial Management System (CFMS), zero participants responded with "always/daily." Nine (26.5%) participants responded with "often/weekly." Five (14.7%) participants responded with "sometimes/monthly." Four (11.8%) participants responded with "rarely/quarterly/annually." Fourteen (41.2%) participants responded with "never." Two (5.9%) participants responded with "never heard of it."

For the Continuous Monitoring Program (CMP), ten (29.4%) participants responded with "always/daily." Fifteen (44.1%) participants responded with "often/ weekly." Six (17.6%) participants responded with "sometimes/monthly." Two (5.9%) participants responded with "rarely/quarterly/annually." One (2.9%) participant responded with "never."

For the Defense Reutilization Marketing Office (DRMO) program, zero participants responded with "always/daily." Four (11.8%) participants responded with "often/weekly." Nine (26.5%) participants responded with "sometimes/monthly." Nineteen (55.9%) participants responded with "rarely / quarterly / annually." Two (5.9%) participants responded with "never."

For the Federal Logistics (FEDLOG) software, 14 (41.2%) participants responded with "always/daily." Sixteen (47.1%) participants responded with "often/weekly." Two (5.9%) participants responded with "sometimes/monthly." Two (5.9%) participants responded with "never."

For the Government Commercial Purchase Card (GCPC) program, 11 (32.4%) participants responded with "always/daily." Eighteen (52.9%) participants responded with "often/weekly." Four (11.8%) participants responded with "sometimes/monthly." One (2.9%) participant responded with "never."

For the General Services Administration (GSA) agency, four (11.8%) participants responded with "always/daily." Ten (29.4%) participants responded with "often/weekly." Nine (26.5%) participants responded with "sometimes/monthly." Nine (26.5%) participants responded with "rarely/quarterly/annually." Two (5.9%) participants responded with "never."

For the Haystack program, three (8.8%) participants responded with "always/ daily." Nine (26.5%) participants responded with "often/weekly." Six (17.6%) participants responded with "sometimes/monthly." Four (11.8%) participants responded with "rarely/ quarterly/annually." Ten (29.4%) participants responded with "never." Two (5.9%) participants responded with "never heard of it."

For the Material Turned in to Stores (MTIS) program, zero participants responded with "always/daily." Five (14.7%) participants responded with "often/weekly." Eleven (32.4%) participants responded with "sometimes/monthly." Twelve (35.3%) participants responded with "rarely/quarterly/annually." Six (17.6%) participants responded with "never."

For the Naval Aviation Logistics Command Management Information System (NALCOMIS) software, 12 (35.3%) participants responded with "always/daily." Seven (20.6%) participants responded with "often/weekly." Two (5.9%) participants responded with "sometimes/monthly." Four (11.8%) participants responded with "rarely/quarterly/ annually." Nine (26.5%) participants responded with "never."

For the Organization Maintenance Management System-Next Generation (OMMS-NG) software, 20 (58.8%) participants responded with "always/daily." Nine (26.5%) participants responded with "often/weekly." Three (8.8%) participants responded with "sometimes/monthly." Two (5.9%) participants responded with "never."

For the One Touch Support (OTS) system, 25 (73.5%) participants responded with "always/daily." Six (17.6%) participants responded with "often/weekly." One (2.9%) participant responded with "sometimes/monthly." Two (5.9%) participants responded with "never."

For the Relational Supply (RSUPPLY) software, 27 (79.4%) participants responded with "always/daily." Four (11.8%) participants responded with "often/weekly." One (2.9%) participant responded with "sometimes/monthly." Two (5.9%) participants responded with "never."

For the Standard Accounting, Budgeting, and Reporting System (SABRS), zero participants responded with "always/daily." Six (17.6%) participants responded with

"often/weekly." Three (8.8%) participants responded with "sometimes/monthly." Eight (23.5%) participants responded with "rarely/quarterly/annually." Seventeen (50%) participants responded with "never." The next section is the analysis of the research related to the research questions.

Table 12. Participant Services and Programs Frequency of Use

	Always / Daily	Often / Weekly	Sometimes / Monthly	Rarely / Quarterly / Annually	Never	Never Heard of It	I Do Not Know
Command Financial Management System (CFMS)	0.0%	26.5%	14.7%	11.8%	41.2%	5.9%	0.0%
Continuous Monitoring Program (CMP)	29.4%	44.1%	17.6%	5.9%	2.9%	0.0%	0.0%
Defense Reutilization Marketing Office (DRMO)	0.0%	11.8%	26.5%	55.9%	5.9%	0.0%	0.0%
Federal Logistics (FEDLOG)	41.2%	47.1%	5.9%	0.0%	5.9%	0.0%	0.0%
Government Commercial Purchase Card (GCPC)	32.4%	52.9%	11.8%	0.0%	2.9%	0.0%	0.0%
General Services Administration (GSA)	11.8%	29.4%	26.5%	26.5%	5.9%	0.0%	0.0%
Haystack	8.8%	26.5%	17.6%	11.8%	29.4%	5.9%	0.0%
Material Turned in to Stores (MTIS)	0.0%	14.7%	32.4%	35.3%	17.6%	0.0%	0.0%
Naval Aviation Logistics Command Management Information System (NALCOMIS)	35.3%	20.6%	5.9%	11.8%	26.5%	0.0%	0.0%
Organization Maintenance Management System-Next Generation (OMMS-NG)	58.8%	26.5%	8.8%	0.0%	5.9%	0.0%	0.0%
One Touch Support (OTS)	73.5%	17.6%	2.9%	0.0%	5.9%	0.0%	0.0%
Relational Supply (RSUPPLY)	79.4%	11.8%	2.9%	0.0%	5.9%	0.0%	0.0%
Standard Accounting, Budgeting, and Reporting System (SABRS)	0.0%	17.6%	8.8%	23.5%	50.0%	0.0%	0.0%

C. ANALYSIS OF RESEARCH RELATED TO THE RESEARCH QUESTIONS

In this section, the findings from Section B are applied as an analysis to each research question.

1. When Navy Supply Corps Officers are given different scenarios, how knowledgeable are they in differentiating between incidents of Navy OPTAR fraud, waste, or abuse schemes?

LOK questions one through 12 were given to measure the participants' FWA LOK as they relate to OPTAR funds. Table 13 shows that 28 (82.4%) participants responded correctly to the "fraud" questions. Six (17.6%) participants responded incorrectly to the "fraud" questions. All waste questions were responded to correctly, therefore no chart was shown. Twenty-six (76.5%) participants responded correctly to the "abuse" questions. Eight (23.5%) participants responded incorrectly to the "abuse" questions.

Table 13 includes a comparison of LOK responses with the participants' self-assessment of their LOK of FWA schemes. Thirty (88.2%) participants responded with "agree" or "strongly agree" that they had sufficient knowledge of fraud schemes to perform their duties. Thirty-two (94.1%) participants responded with "agree" or "strongly agree" that they had sufficient knowledge of waste schemes to perform their duties. Twenty-nine (85.3%) participants responded with "agree" or "strongly agree" that they had sufficient knowledge of abuse schemes to perform their duties.

Self-assessment of LOK perceptions compared to correct responses were in line with the "fraud" and "waste" questions but not the "abuse" questions. This could be an indicator that current FWA training confuses the actions that constitute "abuse."

Table 13. Analysis of FWA LOK vs. Perceptions of FWA LOK

	Correct Responses	Perceptions of LOK
Fraud	82.4%	88.2%
Waste	100%	94.1%
Abuse	76.5%	85.3%

Table 14 shows the participants' total naval experience in years compared to the percentages of correct answers from the LOK section. For waste, all questions were responded to correctly by all participants.

For the "fraud" questions, 60% of the participants with six-to-ten years of experience responded correctly. 85.7% of the participants with 11-to-15 years of experience responded correctly. 100% of the participants with 16-to-20 years of experience responded correctly. 66.7% of the participants with over 20 years of experience responded correctly.

For the "abuse" questions, 50% of the participants with six-to-ten years of experience responded correctly. 88.1% of the participants with 11-to-15 years of experience responded correctly. Seventy-five percent of the participants with 16-to-20 years of experience responded correctly. 58.3% of the participants with over 20 years of experience responded correctly.

For the "proper purchase" questions, 80% of the participants with six-to-ten years of experience responded correctly. Eighty-one percent of the participants with 11-to-15 years of experience responded correctly. 100% of the participants with 16-to-20 years of experience responded correctly. 83.3% of the participants with over 20 years of experience responded correctly.

For the combination questions, 100% of the participants with six-to-ten years of experience responded correctly. 92.9% of the participants with 11-to-15 years of

experience responded correctly. Seventy-five percent of the participants with 16-to-20 years of experience responded correctly. Seventy-five percent participants with over 20 years of experience responded correctly.

For total questions, 80% of the participants with six-to-ten years of experience responded correctly. 91.3% of the participants with 11-to-15 years of experience responded correctly. 90.9% of the participants with 16-to-20 years of experience responded correctly. 77.3% of the participants with over 20 years of experience responded correctly.

Participants with over 20 years of naval experience had the lowest percentage of correct answers while participants with 11–15 years of experience had the highest percentage of correct answers. These results indicate a possible improvement in initial FWA training from the fleet.

Table 14. FWA LOK Vs. Demographics - Level of Knowledge by Total Years of Experience in the Navy

	Fraud	Waste	Abuse	Proper Purchase	Other LOK	Total
6-10 Years	66.7%	100.0%	50.0%	80.0%	100.0%	80.0%
11-15 Years (Largest Sample)	76.5%	100.0%	88.1%	81.0%	92.9%	91.3%
16-20 Years (Smallest Sample)	100.0%	100.0%	75.0%	100.0%	75.0%	90.9%
>20 Years	66.7%	100.0%	58.3%	83.3%	75.0%	77.3%

Less than 80% scored shown in red font. The red block is the lowest score bracket, and green is highest score.

Table 15 shows the participants' OPTAR experience in years with LOK correct response percentages. All "waste" questions received correct responses. For the "fraud" questions, 66.7% of the participants with 11–15 years of OPTAR experience responded correctly. 66.7% of the participants with over 20 years of OPTAR experience responded correctly.

For the "abuse" questions, 50% of the participants with 11–15 years of OPTAR experience responded correctly. Fifty percent of the participants with over 20 years of OPTAR experience responded correctly.

For the "proper purchase" questions, 69.2% of the participants with six-to-ten years of OPTAR experience responded correctly. For the general FWA questions, 50% of the participants with 16–20 years of OPTAR experience responded correctly.

Participants with over 20 years of OPTAR management experience had the lowest percentage of correct answers while participants with 3–5 years of experience had the highest percentage of correct answers. These results indicate a possible improvement in initial FWA training at the Supply Corps School and follow-on training.

Table 15. FWA LOK Vs. Demographics - Level of Knowledge by OPTAR Years of Experience

	Fraud	Waste	Abuse	Proper Purchase	Other LOK	Total
0-2 Years	83.3%	100.0%	75.0%	100.0%	87.5%	88.6%
3-5 Years	83.3%	100.0%	75.0%	83.3%	95.8%	88.6%
6-10 Years (Largest Sample)	82.1%	100.0%	84.6%	69.2%	92.3%	88.1%
11-15 Years (Smallest Sample)	66.7%	100.0%	50.0%	100.0%	100.0%	81.8%
16-20 Years	83.3%	100.0%	75.0%	100.0%	50.0%	81.8%
>20 Years	66.7%	100.0%	50.0%	100.0%	75.0%	77.3%

Less than 80% scored shown in red font. The red block is the lowest score bracket, and green is highest score.

Finally, when asked to which FWA component their command was most susceptible, 18 (52.9%) participants responded with "waste," 15 (44.1%) participants responded with "abuse," and one (2.9%) participant responded with "not susceptible to

FWA." No participant responded with "fraud." These results indicate that personnel may be receiving FWA training but may be most likely to commit acts that would not constitute an illegal transaction.

2. What are Navy Supply Corps Officers' perceptions of training sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?

The perceptions of the sufficiency of FWA training identified are shown in Figures 20 to 23, as well as Tables 4 through 7, and Table 11 in the findings section. Data from Figures 20 and 21 are shown in the summary chart, Table 16. This table shows the participants' perceptions of the sufficiency of training identified on three levels: their own (self-assessment as the Supply Corps Officer), the Leading LSs, and the junior LSs.

For their self-assessment, 30 (88.2%) participants responded with "agree" or "strongly agree." Two (5.9%) participants responded with "disagree" or "strongly disagree." Two (5.9%) participants responded with "neither agree nor disagree."

For the leading LSs, 23 (67.6%) participants responded with "agree" or "strongly agree." Seven (20.6%) participants responded with "disagree" or "strongly disagree." Four (11.8%) participants responded with other responses.

For the junior LSs, 18 (53.9%) participants responded "agree" or "strongly agree." Nine (26.5%) participants responded with "disagree" or "strongly disagree." Seven (19.6%) participants responded with "neither agree nor disagree."

Although a high percentage of participants responded with "agree" or "strongly agree" for self-assessed levels of training sufficiency related to OPTAR FWA, a large percentage of those participants indicated that training was insufficient at the leading LS and junior LS levels. These results could be based on the personal experiences of certain participants and not necessarily reflect the entire naval supply community.

Table 16. Analysis of the Sufficiency of Training for Supply Officers, Leading LSs, and Junior LSs

	Agree or Strongly Agree	Disagree or Strongly Disagree	Neither Agree nor Disagree
Participants have Sufficient FWA Training	88.2%	5.9%	5.9%
Leading LSs have Sufficient FWA Training	67.6%	20.6%	11.8%
Junior LSs have Sufficient FWA Training	53.9%	26.5%	19.6%

Table 11 from the services and programs section of the findings shows the perceptions of the sufficiency of training participants identified for those services and programs. Of the twelve services and programs, four programs had responses below 75%. Table 17 shows that CFMS was perceived to have the lowest training sufficiency. Twenty-five (73.5%) participants responded with "I do not know," "never heard of it," or "not sufficient at all." Haystack received the next lowest training sufficiency; twenty (58.8%) participants responded with "I do not know," "never heard of it," or "not sufficient at all." MTIS received low training sufficiency responses. Twelve (35.3%) participants responded with "I do not know," "never heard of it," or "not sufficient at all." SABRS was the last program with low training sufficiency responses. Twenty-two (64.7%) participants responded with "I do not know," "never heard of it," or "not sufficient at all."

The high percentages of perceived insufficient training could be the result of the participants' lack of exposure to the programs during the first stages of their careers. Programs such as CFMS and SABRS, for example, tend to be managed at later stages during a Supply Corps Officer's career (for example, at the TYCOM level).

Table 17. Perceptions of the Sufficiency of Training Received for Services and Programs

	Slightly to Completely Sufficient	"I Do Not Know" to "Not at all" Sufficient
CFMS	26.5%	73.5%
Haystack	41.2%	58.8%
MTIS	64.7%	35.3%
SABRS	35.3%	64.7%

3. What are Navy Supply Corps Officers' perceptions of internal control sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?

Perceptions of the sufficiency of internal controls in relation to OPTAR FWA was covered in the findings section and shown in Figures 24 through 29, as well as Table 8. The control environment was shown in Figure 24. Twenty-six (76.5%) participants responded with "agree" or "strongly agree" when asked if they knew how to report OPTAR FWA outside of their supervisor. Nineteen (55.9%) participants responded with "agree" or "strongly agree" when asked if they knew how to report FWA outside of their command.

When questioned whether the participants themselves would report FWA if suspected, 29 (85.3%) participants responded with "agree" or "strongly agree." Four (11.8%) participants responded with "neither agree nor disagree," and one (2.9%) participant responded with "strongly disagree."

Tone at the top is shown by questions on how well commands investigated FWA, and whether violators of FWA would be held accountable. While 17 (50%) participants responded with "agree" or "strongly agree" that their commands would hold violators accountable, 13 (38.2%) participants responded with "agree" or "strongly agree" that their

commands would sufficiently investigate possible occurrences of FWA. Six (17.6%) participants responded with "disagree" or "strongly disagree" that violators would be held accountable. Thirteen (38.2%) participants responded with "disagree" or "strongly disagree" that their commands would sufficiently investigate possible occurrences of FWA.

The tone at the top is further illustrated in questions concerning integrity, ethical values, fairness, and honesty in their commands' dealings with employees, vendors/ suppliers, and other commands. Twenty-six (76.5%) participants responded with "agree" or "strongly agree." Two (5.9%) participants responded with "disagree" or "strongly disagree." Six (17.6%) participants responded with "neither agree nor disagree."

Control activities were also addressed. The first question concerned clear lines of authority and responsibility (segregation of duties incorporated) in the participant's department (Chang, 2013). Thirty-one (91.2%) of the participants responded with "agree" or "strongly agree" that they had clear lines of authority and responsibility in their department.

Another set of circumstances discussed for control activities was a practical exercise where RPPOs attempted to change nomenclatures of products ordered. Fourteen (41.2%) participants responded with "agree" or "strongly agree" that RPPOs would change the data if they could. Seven (20.6%) participants responded with "disagree" or "strongly disagree." Eighteen (53%) participants responded with "agree" or "strongly agree" when asked if LSs would catch the attempted change during the technical verification of the products. Seven (20.6%) participants responded with "disagree" or "strongly disagree."

Table 18 shows a summary of data from Table 5 and Figure 22 from the findings section. Table 5 provided data as to whether internal controls were included in the training plans for LSs, while Figure 22 provided internal controls data for RPPOs. When the participants were questioned whether Internal Controls were incorporated in training plans for LSs, 16 (47.1%) participants responded with "agree" or "strongly agree." Six (17.6%) participants responded with "disagree" or "strongly disagree." Twelve (35.3%) participants responded with "other." When the same question was presented, substituting LSs with

RPPOs, 11 (32.4%) participants responded with "agree" or "strongly agree." Sixteen (47.1%) participants responded with "disagree" or "strongly disagree." Seven (20.6%) participants responded with "other." The "other" category are responses "I do not know" or "neither agree not disagree."

Table 18. Internal Controls Included in Training Plans for LSs and RPPOs

	Agree or Strongly Agree	Disagree or Strongly Disagree	Other
LS Training Plans	47.1%	17.6%	35.3%
RPPO Training Plans	32.4%	47.1%	20.6%

Finally, while participant responses to the most vulnerable internal control were varied, 14 (41.2%) participants responded with "control activities." The results indicate that internal controls represented in training plans may not be sufficient for LSs and RPPOs to deter possible FWA.

4. What are Navy Supply Corps Officers' perceptions of audit process sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?

The analysis section concludes with audit processes, shown by data in the findings section. Figure 30 shows perceptions of internal and external audits performed on participant commands. Table 5, found in the training section, references audit training included for LSs, while Figure 23 shows audit processes in RPPO training plans. Table 9 contains data referencing the sufficiency of audit processes from FIAR. Tables 10 and 12 contain services and programs utilized for auditing purposes, among other functions.

Starting with internal and external audits, Figure 30 shows the responses of the thirty-four participants. Sixteen (47.1%) participants responded with "agree" or "strongly

agree" that audits were conducted by internal auditors. Nineteen (55.9%) participants responded with "agree" or "strongly agree" that audits were conducted by external auditors. Eleven (32.4%) participants responded with "disagree" or "strongly disagree" that audits were conducted by internal auditors. Eight (23.5%) participants responded with "disagree" or "strongly disagree" that audits were conducted by external auditors.

Regardless of the type of audit, internal or external, the data shows that the perception of the occurrence of either is not favorable. This indicates the possible need for more of these types of audits.

Table 19 shows a summary of data from Table 5 and Figure 23 in the findings section. Table 5 shows whether audit processes were included in the training plans for LSs, while Figure 23 provided audit process data for the RPPOs. When the participants were questioned whether audit processes were incorporated in training plans for LSs, 14 (41.2%) participants responded with "agree" or "strongly agree." Fourteen (41.2%) participants responded with "disagree" or "strongly disagree." When the same question was presented concerning RPPOs, nine (26.5%) participants responded with "agree" or "strongly agree." Eighteen (52.9%) participants responded with "disagree" or "strongly disagree" that audit processes were incorporated in training plans for RPPOs.

The data suggests that LSs and RPPOs may not be getting trained on audit processes. Perhaps the survey participants felt that these processes were more important for them as the Supply Officer.

Table 19. Audit Processes Included in Training Plans for LSs and RPPOs

	Agree or Strongly Agree	Disagree or Strongly Disagree
LS Training Plans	41.2%	38.2%
RPPO Training Plans	26.5%	52.9%

The last part of the audit perceptions section was the FIAR program. Figures 31 to 35 show average responses based on a Likert scale. “Strongly agree” equals five points, “agree” equals four points, “neither agree, nor disagree” equals three points, “disagree” equals two points, and “strongly disagree” equals one point. The response “I do not know” equals zero.

Participants scored an average of 2.38 on a 5-point scale for the first FIAR statement, “FIAR guidance is sufficient to detect and deter OPTAR fraud.” Figure 31 shows this average score between “disagree” and “neither agree nor disagree.”

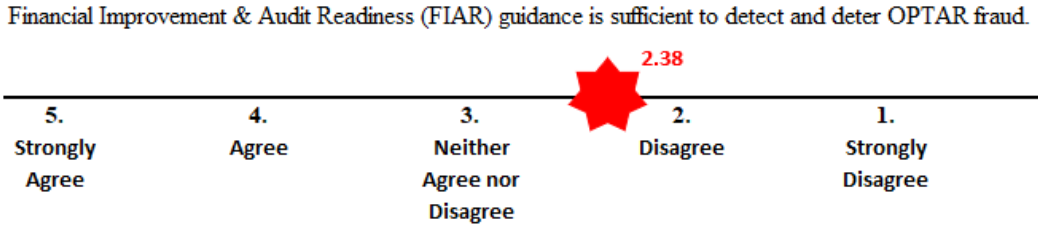


Figure 31. FIAR – Guidance is Sufficient to Detect/Deter OPTAR Fraud. Source: Chang (2013).

Participants scored an average of 2.29 on a 5-point scale for the second FIAR statement, “FIAR guidance is sufficient to detect and deter OPTAR waste.” Figure 32 shows this average score between “disagree” and “neither agree nor disagree.”

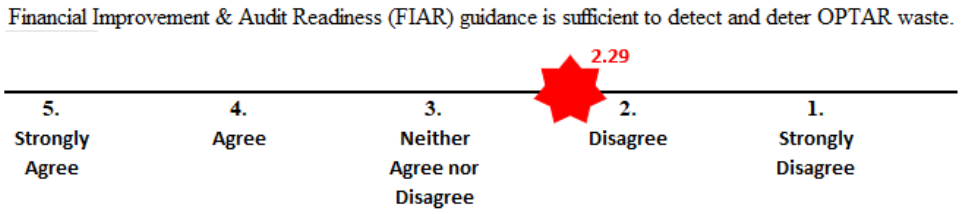


Figure 32. FIAR – Guidance is Sufficient to Detect/Deter OPTAR Waste. Source: Chang (2013).

Participants scored an average of 2.29 on a 5-point scale for the third FIAR statement, "FIAR guidance is sufficient to detect and deter OPTAR abuse." Figure 33 shows this average score between "disagree" and "neither agree nor disagree."

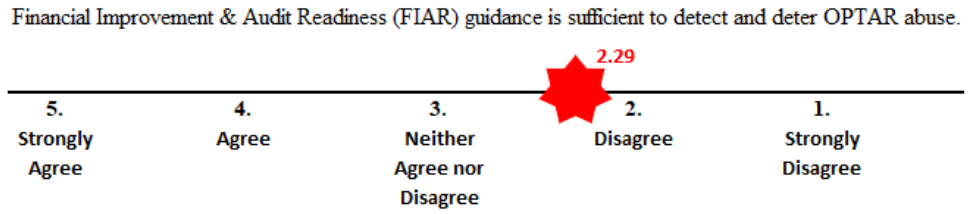


Figure 33. FIAR – Guidance is Sufficient to Detect/Deter OPTAR Abuse. Source: Chang (2013).

Participants scored an average of 2.68 on a 5-point scale for the fourth FIAR statement, "FIAR guidance has helped my understanding of internal controls for effective OPTAR utilization." Figure 34 shows this average score between "disagree" and "neither agree nor disagree."

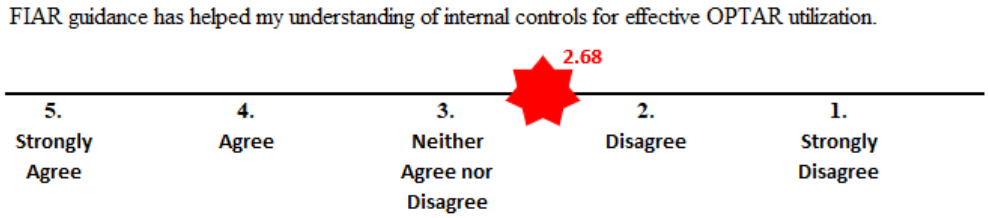


Figure 34. FIAR – Guidance has Helped Understanding of Internal Controls for Effective OPTAR Utilization. Source: Chang (2013).

Participants scored an average of 2.71 on a 5-point scale for the fifth, and final FIAR statement, "FIAR guidance has helped my understanding of audit processes for effective OPTAR utilization." Figure 35 shows this average score between "disagree" and "neither agree nor disagree."

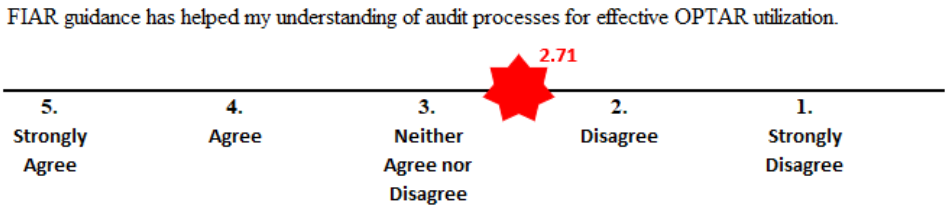


Figure 35. FIAR – Guidance has Helped Understanding of Audit Processes for Effective OPTAR Utilization. Source: Chang (2013).

All the FIAR average scores fell between "disagree" and "neither agree nor disagree." This can have a negative impact on audit readiness. The following section discusses the implications of these findings.

D. IMPLICATIONS

The findings were first included, followed by an analysis of the findings. The next section discusses the implications of the research. This section is organized by research question topic: FWA LOK, training, internal controls, and audit processes.

The first research question topic is FWA LOK. While LOK perceptions of the participants closely matched the correct responses portion of the survey, there were various interesting findings. Participants with over 20 years of naval experience and over 20 years of OPTAR experience responded incorrectly to questions more than any other category. This implies that the FWA training that Officers are receiving now is more robust than that from a couple of decades ago. This is a trend in the right direction. But this also implies that continuing training on FWA is lacking since these participants are still responding incorrectly. When looking at familiarity and frequency of use for services and programs related to auditability, CFMS and Haystack come to the forefront. These programs are excellent audit tools to ensure the right "stuff" is being ordered. Over 40% of the Supply Officers surveyed had little-to-no experience with these programs.

The second research question topic is training. While participants responded that they had sufficient FWA training, the responses for their leading LSs, followed by their junior LSs did not reflect sufficient training. This could mean that the participants, while

comfortable with the amount of training that they have received concerning FWA, are less satisfied by the training that their managers have received and much less satisfied by the training that their junior Sailors have received. This is problematic, since the LS is the person executing financials in most naval commands. An example of this problem is when an LS fails to ensure correct prices are being utilized before ordering parts. This is the point in the system where the command obligates the wrong amount, and later has to dedicate unnecessary time to fix the errors from the difference listing. Another gap in training could be found in the services and programs sections, most notably CFMS, Haystack, and a service like MTIS. Officers who do not know what CFMS is, might not understand how the financials are reported throughout the Navy. Furthermore, they probably do not understand that this program can be utilized to audit their financials against what DFAS is reporting. Haystack is a program utilized to ensure the parts being ordered by divisions are the correct ones (audit). In addition, MTIS is a way to turn in items not needed so they can be utilized by other commands (prevents waste).

The third research question topic is internal controls. Participants know how to report FWA outside of their supervisor (Chang, 2013). But reporting it outside the command is problematic. This topic expands into the training arena as well but coupled with the trend that commands may not be investigating FWA reports (even though they may be holding violators accountable), could be a recipe for disaster. Internal controls do not appear to be included in training plans for LSs or RPPOs. This type of training could deter FWA occurrences at commands.

The fourth and last research question topic is audit processes. Implications associated with audit processes resembled those found in internal controls. If audit processes are included in the training for LSs and RPPOs, they could serve as a deterrent to FWA activity. The data present in terms of audits conducted indicate more external audits than internal audits, which is problematic. Just as training LSs and RPPOs on internal controls and audit processes could detect/deter FWA, the same might be said for FIAR – if more training was provided on this topic, there could be better prevention and deterrence on all levels of the financial system. As it stands now, though, it appears that FIAR procedures are another “check in the block” for the DOD, adding more “red tape” to

an already busy operational schedule for Navy Supply Corps Officers and their Logistics Specialists. All three components of the auditability triangle are important for an agency to be auditable (Rendon & Rendon, 2015). The next section discusses the recommendations based on the analysis.

E. RECOMMENDATIONS

There are four recommendations based on the findings and analyses. The same organization (based on research question topics) is utilized in this section:

1. Require Annual Fraud, Waste, and Abuse Training

Based on the analysis, it is an excellent indication that new officers are receiving FWA training. However, there needs to be a follow-on training schedule for Navy Supply Corps Officers and their Logistics Specialists, Navy-wide. This could take the form of a general military training session and should incorporate updated FWA concepts.

2. Include Financial Manager Training Phase for Enlisted Personnel

Based on the analysis, more financial management training is needed for Navy Supply Corps Officers and their Logistics Specialists. Since these individuals are the personnel executing the day-to-day financials, there would be a benefit to focus early stages of the training regimen on, not only financial procedures and programs, but also on the FWA concepts (update). Additional fleetwide training for helpful services and programs utilized to detect, deter, and prevent FWA (CFMS, Haystack, MTIS, DLA Disposition services, and SABRS) would be beneficial as well.

3. Incorporate Audit and Internal Controls Training in Logistics Specialist and Repair Parts Petty Officer Training Plans

Based on the analysis, training plans at the command level should incorporate audit and internal controls for LSs and RPPOs alike. This will benefit the Navy as a deterrent to FWA schemes. The same can be said for FIAR. If FIAR could provide more substantial training on what needs to be reported and how at the Navy Supply Corps Officers and their Logistics Specialists levels, this could be a tool of deterrence for FWA schemes.

4. FIAR Training Needed

Based on the analysis, FIAR training is needed in the fleet. This could be training on what FIAR is, but more importantly, what FIAR is looking for to enforce audit readiness. The recommendation also expands to what FIAR should be asking to ensure audit readiness. Instead of asking for proof of delivery documentation annotated correctly with circled quantity, legible signatures and printed names of the receiver, and the date of the receipt, FIAR could be enforcing audit readiness by looking for types of pilferable materials. The data from the survey suggests that the FIAR system may not be preventing FWA.

F. SUMMARY

In this chapter the findings from the survey were discussed, followed by an analysis of those findings. Implications of the analyses were provided, and four recommendations were provided. The data, in most cases, was discussed with a graphical or tabular tool, which provides ease of communications. The next, and last chapter provides a summary, conclusion, and areas for further research.

THIS PAGE INTENTIONALLY LEFT BLANK

V. SUMMARY, CONCLUSIONS, AND AREAS FOR FURTHER RESEARCH

A. SUMMARY

Fraud, waste, and abuse (FWA) are dreaded words for any organization, much less the Department of Defense (DOD). Add taxpayer dollars to the usage and the dread becomes panic. But do Navy Supply Corps Officers and their Logistics Specialists truly understand what those words mean when applied to the most basic of budgets, operational target (OPTAR) funds? Are Navy Supply Corps Officers and their Logistics Specialists trained to know the difference between FWA? Do they know what internal controls or audit processes are?

The objective of internal controls is to deter, detect, and prevent FWA. Functional internal controls working in accord with strong audit processes give an organization reasonable assurance that operations, reporting, and compliance objectives are being met. The Navy's OPTAR funds are the frontline command-level bank accounts, more importantly, OPTAR funds are the taxpayers' dollars in action, keeping commands operating without interruption. Decreasing budgets are creating negative impacts on Navy readiness because OPTAR funds are also systematically decreased. By implementing effective training, effective internal controls, and an efficient audit process, the Navy can ensure funds are being utilized appropriately, specifically OPTAR funds, which was the focus of this research.

B. CONCLUSIONS

OPTAR funding is a major component of military readiness. It is the lifeblood of the command that carries out the nation's missions. Understanding the risks of FWA of these funds is paramount for the effective control of OPTAR management. This means that Supply Corps officers and logistics specialists need to know the differences between the three terms, and how schemes can surface in day-to-day operations. This indicates that they need to know, not only if internal controls are in place to detect/deter these attempts, but what systems are available to the manager to enforce these controls. Internal controls

include auditing strategies, and what services and programs are available to aid them with the audit process. The Navy has training available to Sailors that fill the financial manager role, but why are perceptions of the occurrences of FWA still not favorable today? To conclude, the research questions are addressed:

1. When Navy Supply Corps Officers are given different scenarios, how knowledgeable are they in differentiating between incidents of Navy OPTAR fraud, waste, or abuse schemes?

In this research, the participants, who were Supply Corps Officers identified the waste, but they had more difficulty determining what differed between fraud and abuse. In addition to that, they struggled distinguishing between a proper purchase, and a fraud or abuse situation. Differentiating between these concepts is important, and the level of OPTAR experience in this group of participants should have been able to identify situations involving proper purchase and FWA scenarios.

2. What are Navy Supply Corps Officers' perceptions of training sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?

Participants responded that they had the training to detect, deter, and prevent FWA. The Supply Corps Officers' perceptions of sufficient training for their personnel differed from that statement significantly. The services and programs available to Navy Supply Corps Officers and their Logistics Specialists should also be brought into question. If the services and programs are meant to help the managers execute financial records, while detecting and deterring FWA, why have these managers not received the training?

3. What are Navy Supply Corps Officers' perceptions of internal control sufficiency related to possible FWA of Navy OPTAR funds?

Perceptions of the sufficiency of internal controls varied across the sample size population of 34 total respondents. Most participants responded that their command control activities were the most vulnerable. Conversely, the control environment was perceived positively among participants, especially in the field of ethics and duty. Interestingly, a problem was evident when a large percentage of participants responded with "neither agree

nor disagree" and "disagree" if they knew how to report FWA outside of their commands (outside their Commanding Officers).

4. What are Navy Supply Corps Officers' perceptions of audit process sufficiency related to possible fraud, waste, and abuse of Navy OPTAR funds?

Perceptions of the sufficiency of audit processes was consistent across the sample. Responses obtained from the survey indicated that Logistics Specialists had sufficient knowledge of audit processes. Surprisingly, most participants responded that they are audited by internal and external auditors (but more by external auditors). On the contrary, most participants responded that the Financial Improvement & Audit Remediation (FIAR) program failed to detect and deter FWA due to its main effort focused on technical, step-by-step audit processes.

C. AREAS FOR FURTHER RESEARCH

There are significant opportunities for further research. This research focused on a target audience of just over 60 Navy Supply Corps Officers that were attending resident graduate programs at the Naval Postgraduate School in 2022.

The first recommendation for further research would be to open research to all Supply Officers, both 3100 and 6510 (Limited Duty Officers) in all billets. Many Supply Officers get financial management experience during their first operational tours, but if they do not, they do get the experience by the completion of their second operational tours. It would be very interesting to obtain their data. Limited Duty Officers are often prior enlisted logistics specialists, meaning they may have financial management experience.

The second recommendation for further research is a variation on the first opportunity. Research could target the enlisted financial managers (Logistics Specialists). Instead of targeting Limited Duty Officers that were enlisted financial managers, target the Logistics Specialists serving onboard commands, or who are on their shore tours at certain commands (i.e., Fleet Logistics Centers).

The third recommendation for further research would be to analyze other budgets outside of operational funds could also be examined for a third alternative to this research. Instead of researching FWA of OPTAR funds from the TYCOM level down, budgets further up the financial chain could be researched.

The fourth and last recommendation for further research would be to expand the research to other branches of the DOD. The Navy was the focus for this research, but future research could be conducted on various levels of the other military services and agencies of the DOD.

APPENDIX. LEVEL OF KNOWLEDGE QUESTIONS

Fraud LOK 1.

A review of a division's orders reveals that multiple pilferable cordless drills have been ordered. When you question the division officer, he/she tells you their service members need the drills to perform their jobs, but on your way to the parking lot at the end of the day you notice several service members taking the new, unopened drills to their personal vehicles.

Fraud LOK 2.

A review of a division's orders reveals that multiple pilferable multiple-use tools have been ordered. While on the internet you notice that the division's Repair Parts Petty Officer (RPPO) is selling the items on the internet.

Fraud LOK 3.

One of your Logistics Specialists (LS) has been allowing orders from one of their friends on the ship to get through to the supply system without verification. When the items are received the sailors sell the items and split the money.

Waste LOK 1.

Your ship is getting ready to go on deployment and you notice that several new parts, still in their unopened packaging, have been thrown in the dumpster. When you ask the cognizant divisional representatives about the items, they say they no longer need them, and do not have the space on board for them.

Waste LOK 2.

Programs such as Defense Reutilization Marketing Office (DRMO) or Material Turned into Stores (MTIS) best help prevent which of the following?

Waste LOK 3.

Equipment left in a country upon leaving the area of operations would be considered which of the following?

Abuse LOK 1.

During your zone inspection you notice that the shop you are inspecting has several drawers full of new, packaged items labeled with National Stock Numbers (NSNs). When you approach the Leading Petty Officer (LPO), he/she tells you that they keep the spares in the shop because it takes too long to get them from the supply system.

Abuse LOK 2.

One of your Logistics Specialists (LS) has been allowing orders on the ship to get through to the supply system without verification.

Proper Purchase LOK 1.

The administration department submitted a requisition for a high-end, executive pen for the Commanding Officer.

Proper Purchase LOK 2.

The deck department ordered 25 folding knives at $12.95 each for their division and any new reporting check-ins.

Other LOK 1.

A reasonable way to minimize the potential of any possible fraud, waste, or abuse in your organization would be to which of the following?

Other LOK 2.

Items ordered that could potentially be for personal use or have resale value should most carefully be scrutinized when they do which of the following?

LIST OF REFERENCES

Abott, R. (2022, June 2). Navy 2022 budget divests capability to prioritize readiness and reinvestment. Defense Daily. https://www.defensedaily.com/navy-2022-budget-divests-capability-prioritize-readiness-reinvestment/uncategorized/

Ackerman, J., Traeger, J., Koursaris, T, & Shah, R. (2021). Internal controls and risk assessments: What every private company should know. *Deloitte.* https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/internal-controls-and-risk-assessments-pov1.pdf

Assistant Secretary of the Navy for Research, Development & Acquisition. (n.d.). *NTCSS Naval Tactical Command Support System.* Retrieved May 9, 2022, from https://www.secnav.navy.mil/rda/Pages/Programs/NTCSS.aspx

Bolinsky, T., & Zuniga, A. F. (2019). *Auditability: An analysis of the DON's financial systematic issues* [Master's thesis, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/64108

Chang, P. W. (2013). *Analysis of contracting processes, internal controls, and procurement fraud schemes* [Professional report, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/34642

Committee of Sponsoring Organizations of the Treadway Commission (COSO). (2013). *Internal control—integrated framework, executive summary.* http://na.thesis.org/standards-guidance/topics/Documents/Executive_Summary.pdf

Comptroller General of the United States. (1981). *Weak internal controls make some Navy activities vulnerable to fraud, waste, and abuse* (AFMD-81-30). General Accounting Office.

Cressey, D. (1973). *Other people's money: A study in the social psychology of embezzlement.* Patterson Smith.

Defense Contract Management Agency. (2014, October 29). *Fraud, waste, and abuse* (DCMA-INST 906). Department of Defense. https://www.dcma.mil/Portals/31/Documents/Policy/DCMA-INST-906.pdf

Defense Logistics Agency. (2021). *Defense Logistics Agency* [Fact sheet]. https://www.dla.mil/Portals/104/Documents/Headquarters/DLA%20At%20A%20Glance/DLAFactSheetJuly2021.pdf

Defense Logistics Agency. (n.d.). *About the Defense Logistics Agency*. Retrieved September 20, 2021, from https://www.dla.mil/AboutDLA/

Defense Logistics Agency. (n.d.). *DLA Disposition Services*. Retrieved March 9, 2022, from https://www.dla.mil/DispositionServices.aspx

Defense Logistics Agency. (n.d.). *FedMall information.* Retrieved from https://www.dla.mil/Info/FedMall/

Defense Logistics Agency. (n.d.). *The nation's combat logistics support agency*. Retrieved February 10, 2022, from https://www.dla.mil/

Department of Defense. (2004, March 31). *Maintenance of military material* (DOD Directive 4151.18). https://www.acq.osd.mil/log/MPP/.policy.html/ DoDD_4151_18.pdf

Department of Defense. (2018). *DOD Reporting of Charge Card Misuse to OMB* (DODIG-2019-039). DOD Inspector General. https://media.defense.gov/2018/ May/24/2001922399/-1/-1/1/DODIG-2018-101.PDF

Department of Defense. (2021). *Financial management regulation* (DOD 7000.14-R). https://comptroller.defense.gov/Portals/45/documents/fmr/Volume_14.pdf

Department of Defense. (2021). *Financial improvement and audit remediation (FIAR) report.* https://comptroller.defense.gov/Portals/45/documents/fiar/ FIAR_Report_June_2021.pdf?msclkid=fd454af6b6a711ecb3f65d1fbe144e55

Department of the Navy. (2016). *Surface force supply procedures manual* (COMNAVSURFORINST 4400.1A). https://www.mynavyexchange.com/assets/ Static/NEXCOMEnterpriseInfo/shipstores/COMNAVSURFOR_4400.1A.pdf

Department of the Navy. (2019). *Financial management policy manual*. https://www.secnav.navy.mil/fmc/Documents/FINAL-FMPM.pdf

Department of the Navy. (2021). *2020 annual crime report*. https://www.ncis.navy.mil/ Portals/25/2020_ACR.pdf

Department of the Navy. (2021). *Fiscal year 2022 budget estimates, operation & maintenance, Navy.* https://www.secnav.navy.mil/fmc/fmb/Documents/22pres/ OMN_Book.pdf

Frank, J. (2004, April). Fraud Risk. *The Internal Auditor.* 40–47.

Frank, M. (2012, December 6). *The importance of effective monitoring controls.* Blue & Co., LLC. https://www.blueandco.com/nfp_12062012.html

Government Accountability Office (GAO). (2014). *Standards for internal control in the federal government* (GAO-14-704G). http://www.gao.gov/assets/670/665712.pdf

Ionescu, L. (2011). Monitoring as a component of internal control systems. *Economics, Management, and Financial Markets 6*(2), 800–804.

Kidwell, J. M. (2018). *Fraud classification detection in DOD contracts using a statistical analysis perspective* [Professional project, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/61201

Liberto, D. (2022, February 19). *Auditability.* Investopedia. https://www.investopedia.com/terms/a/auditability.asp

Lightle, S. S., Castellano, J. F., & Cutting, B. T. (2007). Assessing the control environment. *The Internal Auditor, 64*(6), 51–55.

Marks, J. T. (2020, May 21). Fraud pentagon - enhancements to the three conditions under which fraud may occur. *BoardAndFraud.* https://boardandfraud.com/2020/05/21/fraud-pentagon-enhancements-to-the-fraud-triangle-and-under-which-fraud-may-occur/

Minnesota Management and Budget. (2010, February 22). *Effective communication, the underappreciated control component.* https://mn.gov/mmb-stat/documents/internal-control/bulletins/2010/effective-communication-2-22-10.pdf

MRP Training Solutions. (n.d.). *Navy administration & logistics training.* Retrieved April 7, 2022, from https://mrp-tsi.com/navy-administration-logistics-training

Naval Education and Training Command. (n.d.). *Courses*. Navy Supply Corps School. Retrieved February 14, 2022, from https://www.netc.navy.mil/Commands/Center-for-Service-Support/Navy-Supply-Corps-School/Courses/

Navy Recruiting Command. (n.d.). *Logistics specialist*. Retrieved February 14, 2022, from https://www.navy.com/careers/logistics-specialist/

Naval Supply Systems Command. (n.d.). *About NAVSUP WSS*. Retrieved April 7, 2022, from https://www.navsup.navy.mil/NAVSUP-Enterprise/NAVSUP-Weapon-Systems-Support/About-NAVSUP-WSS/msclkid/5c1661bab6ae11eca5c7e6e233cc6b49/

Naval Supply Systems Command. (2021). *NAVSUP One Touch support.* https://www.onetouch.navy.mil/static_ots/index.html?msclkid=3bb633f4cb0311ec93d5df71595b5388

Naval Supply Systems Command. (2015). *Navy supply procedures* (NAVSUP Publication 485).

Naval Supply Systems Command. (2016). *Food service management* (NAVSUP Publication 486).

Naval Supply Systems Command. (2013). *Ships store afloat* (NAVSUP Publication 487).

Naval Supply Systems Command. (2005). *RSUPPLY unit user's guide* (NAVSUP Publication 732).

Naval Supply Systems Command. (2015). *Contracting officer's representative* (NAVSUP Instruction 4200.99C).

Navy Enterprise Resource Planning. (n.d.). *About Navy ERP.* Retrieved September 20, 2021, from https://www.erp.navy.mil/

Navy CyberSpace. (n.d.). *The LS rating*. Retrieved January 18, 2022, from https://www.navycs.com/navy-jobs/logistics-specialist.html

Office of the Inspector General. (2018, April 16). *What is considered fraud, waste, or abuse?* https://oig.usaid.gov/node/221/

Office of the Undersecretary of Defense (Comptroller)/Chief Financial Officer. (2022). *Defense budget overview, FY 2023 budget request.* https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY203_Budget_Request.pdf

Raschke, R. L., Lee, M. T., & Mann, A. (2013). Lean processes without compromising controls. *Government Finance Review, 29*(3), 44–50.

Recruit Training Command. (n.d.). *About RTC.* Retrieved January 18, 2022, from https://www.bootcamp.navy.mil/about.html

Rendon, R. G., & Rendon, J. M. (2015). Auditability in public procurement: An analysis of internal controls and fraud vulnerability. *International Journal of Procurement Management, 8*(6), 710–730.

Ringler, D. (n.d.). *What is fraud, waste, and abuse?* Office of the Auditor General of Michigan. Retrieved April 12, 2022, from https://audgen.michigan.gov/report-fraud/fraud-waste-abuse/

Rodriguez, E. (2013). *Analysis of the United States defense and civilian contracting workforce's training on procurement fraud, waste, and abuse* [Joint applied project, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/37702

Rowe, M. L., & McLaughlin, G. P. (2019). *Fraud in the DOD: Is the current fraud penalty system an effective deterrence tool?* [Professional project, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/64056

Rysavy, J. C. (2007). *A statistical analysis of Los Angeles class OPTAR expenditures between Pacific Fleet homeports* [Master's thesis, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/3404

Secretary of the Navy. (2022). *Financial management and comptroller.* Retrieved January 18, 2022, from https://www.secnav.navy.mil/fmc/Pages/FMP.aspx

S&P Global. (2022). *Haystack Gold.* Retrieved April 7, 2022, from https://ihsmarkit.com/products/haystackgold.html

Stuart, I. C. (2012). *Auditing and assurance services: An applied approach.* McGraw-Hill/Irwin.

United States General Services Administration. (n.d.). *Products & services*. Retrieved February 10, 2022, from https://www.gsa.gov/buying-selling/products-services

University of Missouri. (2022). *Division of finance.* https://finance.missouri.edu/riskcompliance-and-controls/internal-controls/components/control-environment/

University of Pittsburgh. (2020, October 3). *Internal control activities & best practices.* https://www.audit.pitt.edu/internal-controls/internal-control-activities-best-practices

Wells, J. T. (2005). *Principles of fraud examination* (1st ed.). John Wiley and Sons.

Whiteley, J. T., Foster, J. A., & Johnson, K. A. (2017). *Contracting for Navy husbanding services: An analysis of the Fat Leonard case* [Professional report, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/56838

Wolfe, D., & Hermanson, D. R. (2004). The fraud diamond: considering the four elements of fraud. *The CPA Journal,* 74, 38–42.

York, M. A. (2008). *Optimal scheduling and operating target (OPTAR) cost model for aircraft carriers in the fleet response plan* [Master's thesis, Naval Postgraduate School]. NPS Archive: Calhoun. https://calhoun.nps.edu/handle/10945/3922

THIS PAGE INTENTIONALLY LEFT BLANK

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
   Ft. Belvoir, Virginia

2. Dudley Knox Library
   Naval Postgraduate School
   Monterey, California