



# NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

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**MBA PROFESSIONAL REPORT**

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## **ANALYSIS OF NPS CONTRACTING SERVICE QUALITY**

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**By: Joseph A. Baza and Timothy E. Cabana  
December 2014**

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**ANALYSIS OF NPS CONTRACTING SERVICE QUALITY**

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Submitted in partial fulfillment of the requirements for the degree of

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from the

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# **ANALYSIS OF NPS CONTRACTING SERVICE QUALITY**

## **ABSTRACT**

The purpose of this project is to identify and analyze customer expectations and customer perceptions of service quality provided by the local contracting office supporting the Naval Postgraduate School. Our goal is to identify performance gaps using the SERVQUAL instrument for measuring customers' expectations and perceptions along five quality dimensions (tangibles, reliability, responsiveness, assurance, empathy). The results will identify areas of improvements in customer relations, contracting support, and service quality.

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# TABLE OF CONTENTS

<b>I.</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>A.</b>	<b>PURPOSE.....</b>	<b>1</b>
<b>B.</b>	<b>IMPORTANCE OF THIS RESEARCH .....</b>	<b>1</b>
<b>C.</b>	<b>RESEARCH QUESTIONS.....</b>	<b>3</b>
<b>D.</b>	<b>RESEARCH SIGNIFICANCE AND IMPLICATIONS.....</b>	<b>4</b>
<b>E.</b>	<b>OUTLINE OF THIS REPORT .....</b>	<b>4</b>
<b>F.</b>	<b>SUMMARY .....</b>	<b>4</b>
<b>II.</b>	<b>LITERATURE REVIEW .....</b>	<b>5</b>
<b>A.</b>	<b>INTRODUCTION.....</b>	<b>5</b>
<b>B.</b>	<b>FEDERAL GOVERNMENT ACQUISITION .....</b>	<b>5</b>
<b>C.</b>	<b>SERVICE QUALITY .....</b>	<b>7</b>
<b>D.</b>	<b>SERVQUAL .....</b>	<b>9</b>
<b>E.</b>	<b>OTHER WAYS TO MEASURE CONTRACTING PERFORMANCE ..</b>	<b>12</b>
<b>F.</b>	<b>SUMMARY .....</b>	<b>15</b>
<b>III.</b>	<b>NAVAL POSTGRADUATE SCHOOL CONTRACTING OFFICE .....</b>	<b>17</b>
<b>A.</b>	<b>INTRODUCTION.....</b>	<b>17</b>
<b>B.</b>	<b>MISSION .....</b>	<b>17</b>
<b>C.</b>	<b>ORGANIZATION .....</b>	<b>18</b>
<b>D.</b>	<b>BUSINESS PROCESSES.....</b>	<b>19</b>
<b>E.</b>	<b>CHALLENGES.....</b>	<b>19</b>
<b>F.</b>	<b>SUMMARY .....</b>	<b>19</b>
<b>IV.</b>	<b>METHODOLOGY, FINDINGS, AND ANALYSIS.....</b>	<b>21</b>
<b>A.</b>	<b>INTRODUCTION.....</b>	<b>21</b>
<b>B.</b>	<b>SERVQUAL DATA ANALYSIS.....</b>	<b>21</b>
<b>C.</b>	<b>DATA COLLECTION PROCESS.....</b>	<b>22</b>
<b>D.</b>	<b>SAMPLE DESCRIPTION .....</b>	<b>22</b>
<b>E.</b>	<b>SURVEY INSTRUMENT .....</b>	<b>22</b>
<b>F.</b>	<b>METHOD OF STATISTICAL ANALYSIS.....</b>	<b>24</b>
<b>G.</b>	<b>FINDINGS.....</b>	<b>24</b>
<b>H.</b>	<b>ANALYSIS .....</b>	<b>38</b>
<b>I.</b>	<b>RECOMMENDATIONS FOR IMPROVEMENT .....</b>	<b>41</b>
<b>J.</b>	<b>SUMMARY .....</b>	<b>44</b>
<b>V.</b>	<b>SUMMARY, CONCLUSION, AND AREAS FOR FURTHER RESEARCH....</b>	<b>45</b>
<b>A.</b>	<b>SUMMARY .....</b>	<b>45</b>
<b>B.</b>	<b>CONCLUSION .....</b>	<b>45</b>
<b>C.</b>	<b>AREAS FOR FURTHER RESEARCH.....</b>	<b>47</b>
	<b>APPENDIX A. CUSTOMER DEMOGRAPHICS DATA .....</b>	<b>49</b>
	<b>APPENDIX B. QUALITY DEFINITIONS REFLECTING FIVE DIFFERING PERSPECTIVES .....</b>	<b>51</b>

<b>APPENDIX C. TEN DIMENSIONS OF SERVICE QUALITY .....</b>	<b>53</b>
<b>APPENDIX D. CORRESPONDENCE BETWEEN SERVQUAL DIMENSIONS AND ORIGINAL TEN DIMENSIONS FOR EVALUATING SERVICE QUALITY .....</b>	<b>55</b>
<b>APPENDIX E. SERVQUAL SURVEY QUESTIONNAIRE.....</b>	<b>57</b>
<b>LIST OF REFERENCES.....</b>	<b>71</b>
<b>INITIAL DISTRIBUTION LIST .....</b>	<b>73</b>

## LIST OF FIGURES

Figure 1.	Organization Responses.....	25
Figure 2.	Department Responses.....	26
Figure 3.	Response–Employment Type .....	26
Figure 4.	Response–Service Frequency .....	27
Figure 5.	Response–Service Interaction.....	28
Figure 6.	Response–Average Purchase Value.....	29
Figure 7.	Reliability Dimension Averages .....	30
Figure 8.	Responsiveness Dimension Averages.....	31
Figure 9.	Assurance Dimension Averages .....	32
Figure 10.	Empathy Dimension Averages .....	33
Figure 11.	Tangibles Dimension Averages .....	34
Figure 12.	Miscellaneous Dimension Averages.....	35
Figure 13.	Dimension Averages .....	35
Figure 14.	Expectation Averages .....	36
Figure 15.	Perception Averages .....	37
Figure 16.	Average Gaps.....	37

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**LIST OF TABLES**

Table 1. NPS Contracting Spend Data (from Lyons et al., 2014).....18

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## LIST OF ACRONYMS AND ABBREVIATIONS

AFICA	Air Force Installation Contracting Agency
AFIT	Air Force Institute of Technology
CITI	Collaborative Institutional Training Initiative
CMMM	Contract Management Maturity Model
DAWIA	Defense Acquisition Workforce Improvement Act
DCAA	Defense Contract Audit Agency
DOD	Department of Defense
DON	Department of the Navy
FAR	Federal Acquisition Regulation
FLC SD	Fleet Logistics Center San Diego
FSC	Federal Supply Code
FY	Fiscal Year
GAO	Government Accountability Office
GSBPP	Graduate School of Business and Public Policy
GPC	Government Purchase Card
HCA	Head of the Contracting Activity
IDIQ	Indefinite Delivery Indefinite Quantity
IG	Inspector General
NAVSUP	Naval Supply System Center
NAVSUP CMD	NAVSUP Contracting Management Directorate
NMCARS	Navy Marine Corps Acquisition Regulation Supplement
NPS	Naval Postgraduate School
NSAM	Naval Support Activity Monterey
NS WSS	Naval Supply Weapons System Support
ORI	Operational Readiness Inspection
PALT	Procurement Administrative Lead Time
PPMAP	Procurement Performance Management Assessment Program
SBA	Small Business Administration
SAP	Simplified Acquisition Procedures
SAT	Simplified Acquisition Threshold
UCI	Unit Compliance Inspection

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## **I. INTRODUCTION**

### **A. PURPOSE**

This chapter provides the purpose, importance, research questions, significance and implications, and outline to assess the service quality of the Naval Postgraduate School (NPS) Contracting Office. The purpose of this research is to assess the service quality of the NPS Contracting Office. In March 2014, the NPS president issued a memorandum to the Graduate School of Business and Public Policy (GSBPP) and Director of Contracting and Logistics Management directing a comprehensive study of the school's contracting office. The goal of the study was to "promote improvements in the use of contracts to accomplish the NPS mission" (R. A. Route, personal communication, March 18, 2014).

U.S. Air Force students currently in the acquisitions and contract management curriculum were identified to perform the study. Each student has a minimum of three years of operational contracting experience with at least Level I certification in the Defense Acquisition Workforce Improvement Act (DAWIA). The study of the NPS Contracting Office has three main focus areas which include 1) a contract pre-award process analysis; 2) an assessment of customer service quality; and 3) a spend analysis of all purchased goods, services, and construction projects. This research focuses on the service quality assessment study. The next section explains the importance of this study.

### **B. IMPORTANCE OF THIS RESEARCH**

This research aims to identify specific service quality gaps by using the SERVQUAL quality service framework. SERVQUAL customer surveys can collect data on customer expectations of the services they expect to receive and customer perceptions of the services they actually receive from the NPS Contracting Office. Additionally, this research can help to develop a conceptual framework for using SERVQUAL to measure service quality of contracting support in other Department of Defense (DoD) organizations. The importance of this research can be divided into three factors, as discussed below.

First, the importance of this research is to identify if service quality gaps exist between the expectation of service quality provided by the NPS Contracting Office and the perception of actual service quality received. For the purpose of this research, NPS Contracting Office customers include the faculty and staff who support the NPS academic and research mission as well as NSA Monterey operations. If a service quality gap exists between the customer's expectations and perceptions of the service quality provided by the NPS Contracting Office, that gap could identify if and why the customer's expectations are too high or too low in relation to the realistic level of service quality expected from the NPS Contracting Office. Zeithaml, Parasuraman, and Berry (1988) discuss the implications of customer expectations, "as expectations rise, customer's attention to detail and ability to articulate gaps between expectations and experiences increases" (p.795).

Additionally, Young and Varble (1997) discuss that purchasing is responsible for facilitating the necessary resources for its organization, in addition to providing quality service to internal customers. Furthermore, the contracting function at the installation level is increasing in size and complexity. Installation leaders are relying more on contractor support to overcome manpower shortages by outsourcing non-core competencies so that resources can be devoted to core mission requirements. With an increase in the demand for contract support, it is important to focus on contracting service quality to ensure customers are receiving the best possible service. The increase in demand for contracting support at NPS also requires an increased focus on the quality of service provided to NPS faculty and staff in order to accomplish the academic mission.

This research focuses specifically on internal service quality within an organization. The measurement of internal service quality within an organization is important to ascertain how service quality provided relates to provider job satisfaction and customer satisfaction (Hallowell et al., 1996). If a service quality gap exists between the provider and the customer, that gap could identify a problem with provider job satisfaction, customer satisfaction, or both. In turn, by identifying potential problems in these areas, it could also identify solutions that may improve and benefit the organization as a whole.

Second, this research strives to identify any areas where a service quality gap exists for further investigation to determine if improvements can be made. Although, the intent of this research is not to make assumptions regarding specific causes of service quality gaps; rather, this research aims to identify which service quality dimension gaps (reliability, responsiveness, assurance, empathy, and tangibles) exists in order to highlight that dimensions as a potential for further investigation (Young & Varble, 1997).

Finally, the research seeks to test the measurement of service quality gaps and the SERVQUAL method in a government contracting organization to determine if this may be a valuable method for measuring service quality in other contracting organizations. Thus far, minimal research had been conducted on the use of measuring service quality gaps, specifically using the SERVQUAL method, within DoD. If this research is proven as a beneficial method of measuring the service quality of a contracting organization, it may have the potential to be implemented within other DoD organizations.

The overall goal of this research is to “promote improvements in the use of contracts to accomplish the NPS mission” as directed by the NPS president (R. A. Route, personal communication, March 18, 2014). If the outcome results in an improvement of customer satisfaction, or overall improvement in the relationship between the NPS Contracting Office and NPS customers to accomplish the NPS mission, then this research will be considered successful.

### **C. RESEARCH QUESTIONS**

The objective of this research project is to answer the following questions:

1. Is there a gap between NPS faculty and staff’s expectations of the quality of service the NPS Contracting Office should provide and their perceptions of the quality of service they received?
2. Can the identified expectation and perception gaps of service quality be resolved or minimized to improve customer relations?
3. What can the NPS Contracting Office do to mitigate gaps within expectations and perceptions of service quality?

## **D. RESEARCH SIGNIFICANCE AND IMPLICATIONS**

This is the first study of the NPS Contracting Office using the SERVQUAL model. This research satisfies the NPS president's objective of accomplishing a study of the school's contracting office. The results of this study can provide NPS senior leaders the results of the service quality data collected, a detailed analysis of data collected, and discussion and recommendations for the NPS leadership and contracting office to consider.

## **E. OUTLINE OF THIS REPORT**

This professional report is organized into five chapters. Chapter I describes the purpose of the research study, introduces the research questions, and discusses the significance and implications of this study. Chapter II is a review of literature on federal government acquisitions, service quality, SERVQUAL, and other ways to measure contracting performance. Chapter III discusses the Naval Postgraduate School's (NPS) mission and the NPS Contracting Office's organization, business processes, and challenges. Chapter IV describes SERVQUAL data analysis procedures, our data collection process, study population, and our survey application. Additionally, the chapter describes our method of statistical analysis and provides our research findings, analysis and recommendations for improvements. Chapter V concludes with a summary of our study, provides our conclusion and identifies other areas for further research.

## **F. SUMMARY**

This chapter provided the purpose and importance of our research of using the SERVQUAL method to measure the service quality of the NPS Contracting Office. This chapter also provides our research questions, the significance and implications of our research study to assess the service quality of the Naval Postgraduate School Contracting Office, and an outline of this report to orient the reader. The next chapter provides a literature review of federal government acquisitions, service quality, the SERVQUAL model, and other ways of measuring contracting performance.

## **II. LITERATURE REVIEW**

### **A. INTRODUCTION**

The purpose of this chapter is to review literature applicable to this research study. The chapter begins with a discussion of the federal government acquisition system with an emphasis on the system's four guiding principles and the importance of providing customers with quality contracting services. This chapter also examines service quality standards and discusses the limited availability of literature regarding service quality. The chapter introduces SERVQUAL, the model used to create and execute the service quality customer survey and is further discussed in the methodology section. Finally, the chapter explores other ways of measuring contracting performance.

### **B. FEDERAL GOVERNMENT ACQUISITION**

This section provides an overview of the federal government acquisition regulation system and briefly discusses similar commercial contracting objectives. The Federal Acquisition Regulation System consists of 1) the Federal Acquisition Regulation (FAR) and 2) executive agency regulations that supplements the FAR (FAR 1.101). The Federal Acquisition Regulation System establishes the basis for creating and issuing federal acquisition policy and procedures. The FAR provides four principles for federal government acquisitions.

1. The vision for the Federal Acquisition System is to deliver on a timely basis the best value product or service to the customer, while maintaining the public's trust and fulfilling public policy objectives.
2. The Federal Acquisition System will a) satisfy the customer in terms of cost, quality, and timeliness of the delivered product or service; b) minimize administrative operating costs; c) conduct business with integrity, fairness, and openness and; d) fulfill public policy objectives.
3. The acquisition team consists of all participants in government acquisition including not only representatives of the technical, supply, and procurement communities but also the customers they serve, and the contractors who provide the products and services.

4. The role of each member of the acquisition team is to exercise personal initiative and sound business judgment in providing the best value product or service to meet the customer's needs. (FAR 1.102)

According to these guiding principles, the overarching purpose of the Federal Acquisition System is for executive agencies to acquire the best products or services to support mission requirements, at the right time, in the right quantity, at the right price, with integrity and fairness while upholding the public's trust and fulfilling national policy objectives. The first two principles discuss the vision of the System, important customer service characteristics, and identifies value-added benefits of the contracting process. Essentially, federal government contracting is a service-oriented function. Customers exist internally (end-users of acquired products or services) and externally (executive policy makers). The contracting function creates business value for internal customers by providing professional contracting support to acquire products or services to complete mission objectives in a timely manner. If the contracting department fails to offer excellence contract support, as the Federal Acquisition System envisions, there is a potential risk for mission failure.

FAR 1.102–2(a) (2) provides explicit language for service quality performance standards. Specifically, “the System must be responsive and adaptive to customer needs, concerns, and feedback. Implementation of acquisition policies and procedures, as well as consideration of timeliness, quality, and cost throughout the process, must take into account the perspective of the user of the product or service” (FAR 1.102–2). Therefore, the contracting department must deliver services that meet or exceed customer perceptions and expectations while preserving the integrity of the System and accomplishing public policy objectives.

In the commercial sector, the contracting function is designed to support the overall strategic business objective of achieving competitive advantage and earning market share. The vision of the federal acquisition system mirrors commercial contracting standards. For example, Monczka, Handfield, Giunipero and Patterson (2011) note that the purchasing function must support internal customers by “sourcing products and services at the right price; source them from the right source; source them at the right



specifications that meet users' needs; source them in the right quantity; and arrange for delivery/service performance at the right time to the right internal customer" (Monczka, Handfield, Giunipero, & Patterson, 2011, p. 43). It is clearly evident that contracting objectives in the commercial industry are similar to federal government contracting—to support customers by providing the best products or services at the right cost, at the right time, and in the right quantities, etc. With that in mind, the next section continues by discussing literature on service quality standards and how service quality is defined.

### **C. SERVICE QUALITY**

In the previous section, service quality attributes were examined in both federal government and commercial contracting literature. This section discusses service quality standards. To begin, how is service quality defined? Several authors define service quality as satisfying expectations (Metters, King-Metters, Pullman, & Walton, 2006). Others define service quality as “the discrepancy between customers' expectations and perceptions” (Zeithaml, Parasuraman, & Berry, 1990). Each person receiving services from commercial or government entities are bound to have different expectation and perceptions on the quality of service offerings. Consequently, measuring service quality can be a difficult task. Unlike tangible products that can be inspected and corrected throughout the manufacturing process to maintain consistent quality standards, it is difficult to provide consistent services across any organization. In addition, because service offerings are immediately consumed, it is difficult to correct deficiencies or poor services as the damage is already done. Thus, poor services can be difficult to correct because negative first impressions can affect the customer's view of total services provided (Metters et al., 2006).

Researchers suggest that there is a limited body of knowledge on service quality measurements when compared with goods and commodity quality measurements. After conducting extensive research on the topic, authors Zeithaml et al. (1990) noticed three principle trends regarding measurements of service quality.

First, Zeithaml et al. argue that customers have more difficulties in evaluating services as opposed to goods (1990, p. 16). The example they use is how it would be more difficult for a customer to evaluate a stockbroker's investment services compared to

the evaluation of a tangible good such as insulation materials (p. 16). Second, they claim that, unlike tangible products that are evaluated based on the finished product, customers evaluate not only the outcome of the service, but the process in which the service was offered. Third, the authors claim that customer expectations and perceptions of services provided are the most important criteria in evaluating service quality characteristics. Specifically, they note that “only customers judge quality; all other judgments are essentially irrelevant” (Zeithaml et al., 1990).

Metters et al. indicate that the importance of service quality is gaining momentum as “the U.S. economy shifts ever more to one dominated by services and consumers demand more and better quality of their service providers” (Metters et. al., 2006). In the federal government, contracting customers typically demand the same quality of service to accomplish their mission objectives. From an Air Force senior acquisition executive perspective, Air Force Installation Contracting Agency (AFICA) Commander Brigadier General Blake (C. Blake, personal communication, November 13, 2013) claims “the complex demands on today's Air Force installations mean that AFICA must operate at peak efficiency to deliver the needed services on time and on cost”. The notion of providing services “on time” and “on cost” is a common service-quality characteristic identified in the FAR, in industry purchasing procedures, and by federal government contracting leaders and customers alike.

Overall, the federal government understands the importance of providing quality government services to the American public. In fact, the Government Accountability Office (GAO) states that the “federal government has set a goal of providing service to the public that matches or exceeds that of the private sector. Executive Order 12862 (September 11, 1993) and a related 1995 memorandum require agencies to post customer service standards and report results to customers” (Government Accountability Office, 2010).

Scholars claim that most service quality definitions fail to incorporate the views of all stakeholders. Metters et al., (2006) provide categories of quality definitions reflecting five different perspectives. These five different perspectives are: transcendent

view, product-based view, user-based view, manufacturing-based view, and value-based view. Refer to Appendix B for a description of each differing view.

Each stakeholder measures service quality differently based on his or her perceptions and expectations. Also, stakeholders have different quality expectations. For example, some may expect services to be on time while others may expect services to be done right the first time even if additional time is needed to complete a task. The five quality perspectives mentioned previously provide a framework to analyze differing stakeholder perspectives.

How is service quality measured? The commercial sector uses a variety of measurement standards to gauge the quality of services. Although a majority of the 50 quality standards and awards are intended to measure manufacturing quality, a few are used for service-specific measurements (Metters et al., 2006). Examples of the service quality measurement models include six sigma, the Malcolm Baldrige National Quality Award, the International Organization for Standardization's standards, and SERVQUAL, also known as the gaps model (Metters et. al., 2006). SERVQUAL is discussed in the next section and is the model used in this study to assess service quality of the NPS Contracting Office.

#### **D. SERVQUAL**

Gibson (2009) provides background information on the development of SERVQUAL. He states that the SERVQUAL model was developed in the late 1980s by Valerie A. Zeithaml, A Parasuraman and Leonard L. Berry in response to the lack of a proven method to measure service quality during that period. Additionally, he notes that quality control practices for goods are inadequate when applied to service quality. Finally, he discusses how the inadequacy of quality control practices that is uncovered by Zeithaml et al. leads to three fundamental differences between regarding the relationship between service and quality of services.

The developers of SERVQUAL provide those three fundamental differences. "First, services are basically *intangible*. Because they are performances and experiences rather than objects, precise manufacturing specifications concerning uniform quality can rarely be set" (Zeithaml et al., 1990). The subjectivity of performances and experiences

amongst different individuals along with the intangibility of the service adds to the complexity of quality measurement.

“Second, services—especially those with a high labor content—are *heterogeneous*: their performance often varies from producer to producer, from customer to customer, and from day to day” (Zeithaml et al., 1990).

“Third, production and consumption of many services are *inseparable*. Quality in services often occurs during service delivery, usually in an interaction between the customer and the provider, rather than being engineered at the manufacturing plant and delivered intact to the customer” (Zeithaml et al., 1990).

To answer the question of how customers actually evaluate service quality, researchers Zeithaml et al. (1990) completed an exploratory study which involved 12 focus-group interviews with customers in four different service industries: credit cards, retail banking, securities brokerage, and product repair and maintenance. The four service sectors provided an expansive mix of different customer service environments for explorative studies.

There were significant findings on the focus-group studies. For example, “the focus groups unambiguously supported the notion that the key to ensuring good service quality is meeting or exceeding what customers expect from the service” (Zeithaml et al., 1990). Based on the study, the definition of service quality, based on customer perceptions, was defined as “the extent of discrepancy between customers’ expectations or desires and their perceptions” (Zeithaml et al., 1990).

Additionally, four themes regarding the factors that influence expectations were identified during the focus-group analysis. The first factor that influences customer expectations is what they “hear from other customers” or *word of mouth communications* (Zeithaml et al., 1990).

The second factor identified was *personal needs*. Authors noted that “respondents’ expectations appeared to vary somewhat depending on their individual characteristics and circumstances. For example, in the credit-card focus groups, while some customers expected credit-card companies to provide them with the maximum

possible credit limits, other customers wished that their credit-card companies were more stringent than they then were” (Zeithaml et al., 1990).

The third factor identified was that “the extent of *past experience* with using a service could also influence customers’ expectation levels. More experienced participants in the securities-brokerage focus groups, for instance, seemed to have somewhat lower expectations regarding brokers’ behavioral attributes such as friendliness and politeness; however, they appeared to be more demanding with respect to brokers’ technical competence and effectiveness” (Zeithaml et al., 1990).

The fourth factor identified is that “*external communications* from service providers play a key role in shaping customers’ expectations. Under external communications, we include a variety of direct and indirect messages conveyed by service firms to customers: a bank’s print advertisement promising the friendliest tellers in town, a television commercial for a credit card touting its acceptability around the world, a repair firm’s receptionist guaranteeing the arrival of a service representative at an appointed time, or a brokerage firm’s glossy brochures implying a promise of superior service” (Zeithaml et al., 1990).

Along with highlighting the fundamental differences of service quality measurements, and the four factors that influence customer expectations, the most eye-opening component identified by the focus-group studies was the standards or “dimensions of service quality” that customers used to evaluate service quality (Zeithaml et al., 1990). Zeithaml et al. (1990) noted ten standards or dimensions: tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the customer. See Appendix C, adapted from *Delivering Quality Service—Balancing Customer Perceptions and Expectations*, for a complete description of the ten dimensions of service quality. Furthermore, during their research Zeithaml et al. (1990) noticed significant correlations between the last seven original dimensions listed in Appendix C. They consolidated the last seven dimensions into two broad categories labeled as assurance and empathy. The final version of the SERVQUAL dimensions is shown in Appendix D. These dimensions were used to develop a 44-question SERVQUAL specific survey for our study based on customer

perceptions and expectations of NPS's service quality. Additionally, four miscellaneous questions were added to the survey.

Gibson (2009) highlights the framework of the SERVQUAL model. According to Gibson, the model is composed of 22 statements that identify customer's general expectations of a service offering and 22 related statements that identify customer perceptions of a specific service offering. Any significant differences between customer expectations and perceptions are identified as service quality gaps. More details about survey development and execution is discussed in the methodology section.

The SERVQUAL model was used in other research studies to assess service quality at various organizations. Based on Google Scholar's citation index, *Delivering Quality Service—Balancing Customer Perceptions and Expectations* was cited more than 4,000 times. Previous SERVQUAL research studies include a wide variety of organizations such as retail stores, state government entities, grocery stores, and international organizations.

In the next section, an overview of ways in which operational contracting organizations are measured for performance is discussed.

## **E. OTHER WAYS TO MEASURE CONTRACTING PERFORMANCE**

Currently, operational contracting offices are inspected, audited, and evaluated in terms of contracting policy compliance and readiness. Generally, the performance of operational contracting offices in the DoD are measured in terms of compliance. In other words, exceptional contracting compliance of an office equates to exceptional performance of said office. For the purpose of this report, the Navy's policy for contract compliance and review will be discussed.

According to the Navy Marine Corps Acquisition Regulation Supplement, NMCARS 5201.691, the DON conducts procurement management and oversight through the Procurement Performance Assessment Program (PPMAP). The NMCARS defines the PPMAP as a "flexible, performance-based, process-oriented program that requires contracting activities to perform periodic self-assessments of: 1) critical procurement processes; 2) performance-based metrics; 3) the results of employee and customer surveys" (NMCARS 5201.691-1(a)). Additionally, the DON Heads of Contracting

Activities (HCA) are required to use the PPMAP results to: “1) evaluate the quality of its procurement processes and management systems; 2) validate execution of delegated authority is occurring according to law and regulation; 3) mitigate risk of vulnerabilities for fraud, waste or abuse to occur; and, 4) take appropriate corrective actions as needed, to improve or maintain the quality of procurement operations within the contracting activity” (NMCARS 5201.691–1(b)). According to Sproule et al. (2005), the Naval Supply System Command Contracting Management Directorate (NAVSUP CMD) serves as the PPMAP program manager responsible for performing “periodic selective reviews of contracting operations and related areas to determine that an adequate system of checks and balances has been provided (Sproule et al., 2005).

Sproule et al. (2005) state that PPMAP on-site reviews of each contracting activity are completed every eighteen months to three years, depending on the contracting authority of the activity, and in conjunction with IG reviews. PPMAP assessments of the contracting activity’s performance are summarized and assigned a rating of “Highly Satisfactory, Satisfactory, Marginal, or Unsatisfactory” (Sproule et al., 2005). According to the PPMAP Rating System memorandum (2013), PPMAP assessments evaluate contracting using three categories: 1) Organizational Leadership; 2) Management Controls and Internal Controls; and 3) Regulatory Compliance. The assigned rating resulting from the PPMAP determines the frequency of follow-on PPMAP assessments. Organizations with rating of satisfactory or above are reviewed within 36 months, organizations with a rating of marginal are reviewed within 18 months, and organizations with a rating of unsatisfactory are reviewed within 12 months.

Sproule et al. (2005) state that as part of the PPMAP assessment, the assessment team conducts interviews with individuals who are involved or work closely with the contracting office to include management, acquisition workforce, legal counsel, CORs, and customers. Through these interviews, the PPMAP assessment team are given the opportunity to gain insight directly from the customer which may include aspects of the organizations customer service.

In addition to the required compliance reviews and inspections required by the DoD or respective service organization leadership can also assess the performance of their organization using internal operational statistics. For example, many organizations assess performance by number of contract actions executed, contract dollars obligated, number of contracts closed, or by using Procurement Administrative Lead Time (PALT) which measure the amount of time it takes to award a contract from the initial procurement request.

In addition to the policy mandated compliance reviews used to assess the performance of a contracting organization, there has been research into alternative ways for organizations to assess and evaluated the performance of the contracting function. Rendon (2008) introduced the Contract Management Maturity Model (CMMM) “as a method for assessing, measuring, and improving an organization’s procurement process” (Rendon, 2008, p. 200).

Rendon (2008) states that the CMMM provides a tool for contracting organization to “pursue in improving its contract management process capability from an ad hoc (immature) process to a continuously improved, or optimized (mature) process” (Rendon, 2008, p. 204). The CMMM uses “five levels of maturity applied to six key processing areas in related practice activities of the contract management process” (Rendon, 2008, p. 205). The outcome of using the CMMM is to give contracting organizations a “greater degree of visibility and granularity into its contract management process by dissecting the process into six key process areas” (Rendon, 2008, p. 207).

Despite the many quantifiable ways to measure performance, contracting leaders are not devoting sufficient time to evaluate unit performance in terms or organizational effectiveness, efficiency, and specifically service quality. Although the Navy PPMAP assessment may touch on service quality through their customer interviews, for most DoD contracting organizations, the most common form of measuring service quality is a generic customer satisfaction survey or through the use of a suggestion box.



## **F. SUMMARY**

This chapter provided a review of literature applicable to this research study. This chapter included a review of the federal government acquisition system, a review of published service quality standards and definitions, an introduction of the SERVQUAL model, and concluded with a discussion on other ways to measure contracting performance. The next section will discuss the Naval Postgraduate School's mission and the NPS Contracting Office's organization, business processes and will conclude with a discussion of some challenges the organization typically encounters.

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### **III. NAVAL POSTGRADUATE SCHOOL CONTRACTING OFFICE**

#### **A. INTRODUCTION**

In this chapter, a brief background of the NPS Contracting Office is provided. First, an overview of the NPS Contracting Office, including the NPS mission will be discussed. Next, the NPS Contracting Office organizational structure will be discussed. Also, some of the organization's business processes will be reviewed. Finally, significant challenges that the NPS Contracting Office encounters will be discussed.

#### **B. MISSION**

The mission of the Naval Postgraduate School is:

To provide relevant and unique advanced education and research programs to increase the combat effectiveness of commissioned officers of the Naval Service to enhance the security of the United States. (NPS Public Affairs Office, 2013)

The NPS Contracting Office provides procurement and contracting services to support the academic and research activities at NPS. Additionally, NPS Contracting Office also provides contracting support to installation operational requirements for the Naval Support Activity Monterey (NSAM). Specific functions include the procurement and management of contract requirements for commodities, services, and some minor construction, along with the management of the government purchase card program (GPC). Some examples of typical customer requirements include purchases for furniture, computers, janitorial services, facilities maintenance, and infrastructure renovation. Examples of academic and research requirements include academic materials, subscriptions, and other unique requirements which are not traditionally purchased by an operational contracting activity. According to the 2013 NPS Annual Report, the operating budget for NPS in Fiscal Year 2013 (FY13) was \$294.5 million (NPS Public Affairs Office, 2013). Although the NPS Contracting Office is not responsible for obligating the entire NPS operating budget, they play a significant role in providing business solutions

and contracting support to NPS and NSAM faculty, staff, and students. According to Lyons et al. (2014), the NPS Contracting Office’s average annual procurement spend from FY12 to FY14 was \$16,384,478.45 with an average of 594 contract actions. Table 1 references the annual procurement spend data for the NPS Contracting Office in FY12 to FY14.

Table 1. NPS Contracting Spend Data (from Lyons et al., 2014)

Signature Authority	FY 12	FY 13	FY 14	Total
NPS	\$17,568,949.33	\$17,916,231.30	\$13,668,254.72	\$49,153,435.35
Number of actions	684	689	409	1782

Additionally, Lyons et al. (2014) state that the NPS spend data “focuses on five major spend categories via FSCs to include: Education and Training, Support Services—Professional/Administrative/Management (PAM), Administrative Data Processing (ADP)—Equipment/Software/Supplies (ESS), Information Technology (IT) and Telecommunications, and Research & Development (R&D)” (Lyons et al., 2014). Next, a brief description of the NPS Contracting Office organization is provided.

### C. ORGANIZATION

According to Lee, prior to December of 2011, all NPS contracting requirements above \$2,500 were accomplished by the Fleet Logistics Center San Diego (FLC SD) and the Naval Supply Weapons System Support (NS WSS) (Lee, 2013). NPS specific research, educational, and administrative requirement were accomplished via an Indefinite Delivery Indefinite Quantity (IDIQ) contract managed by FLC SD which expired in 2011 (Lee, 2013).

The NPS Contracting Office consists of six contracting professionals. Four are contracting specialists, one is a contracting officer and supervisor, and the Director of Contracting and Logistics for NPS is also a contracting officer. Lee (2013) states that the contracting support provided by the NPS Contracting Office for FY 11 and FY 12 are approximately a quarter of the annual NPS operating budget.

#### **D. BUSINESS PROCESSES**

NPS was granted authority to purchase NPS and NSAM contract requirements up to the Simplified Acquisition Threshold (SAT) of \$150,000 under FAR Part 13, Simplified Acquisition Procedures (SAP) (Lee, 2013). According to Lee, due to the unique mission of NPS as an academic institution, many of the NPS contract requirements can only be procured through FAR Part 6.302, Sole Source Awards (Lee, 2013). Many of the educational and academic requirements of the NPS dictate that only one available source exists due to the technical and proprietary nature of academic requirements. However, FAR dictates that competition is to be used to the highest extent possible.

#### **E. CHALLENGES**

According to Lee (2013), one of the most significant challenges is for contracting specialists to find competitive sources through market research to compete for the unique academic requirements of the NPS. Many NPS requirements involve high levels of technical capability and subject matter expertise to satisfy the needs of NPS customers. For this reason, it is even more difficult to satisfy Small Business goals for contract procurements (Lee, 2013).

Since many of the NPS requirements are awarded sole source, the business size of that source is what is documented, whether a large or small business according to the Small Business Administration (SBA) size standards. According to Lee's study, of the total contracts awarded to Small Businesses were approximately 78% competitive procurements; additionally, of the total contracts awarded to Large Businesses were approximately 50% competitive procurements (Lee, 2013).

A second significant challenge according to Lee is that the NPS does not have a Small Business Advisor on staff to assist with market research to identify small business sources who can compete and meet the needs of NPS requirements (Lee, 2013).

#### **F. SUMMARY**

In summary, this chapter provided a brief overview and background of the NPS Contracting Office, the organization that we are studying. Discussions of the NPS

Contracting Office include their organizational structure, business processes, and some challenges they encounter. The next chapter provides our methodology used in this research study, including a discussion of SERVQUAL data analysis, data collection process, population, survey instrument, method of statistical analysis, our findings and analysis, and will conclude with our recommendations for improvements.

## **IV. METHODOLOGY, FINDINGS, AND ANALYSIS**

### **A. INTRODUCTION**

In this chapter, the methodology for conducting our research study will be discussed. First, the methodology of using the SERVQUAL method for our research and data analysis will be provided. Next will be the methodology of our data collection process for this study. Third will be the methodology for the population sample size used for our research. Following the population, we discuss our methodology and use of the survey instrument. Next, our methodology for the statistical analysis will be provided. Finally, our findings and analysis of the survey will be discussed followed by recommendations for improvements.

### **B. SERVQUAL DATA ANALYSIS**

This research uses the SERVQUAL method for analyzing service quality gaps. The service quality gap to be measured using SERVQUAL is the gap between the NPS Contracting Office customer's general expectations of service quality with the perception of service quality actually received.

The results of the measurement of service quality gaps are used to analyze if a narrow, wide, or no gap exists. A narrow gap may result in a less significant disparity of service quality and may result in little to no substantial concern with the level of service quality provided by the NPS Contracting Office. A wide gap may result in a significant disparity of service quality and may result in a substantial concern with the level of service quality provided; or, may result in a substantial concern with the expectations of the service quality provided by the NPS Contracting Office. No gap may result in any disparity of service quality provided by the NPS Contracting Office. More detailed information about how the SERVQUAL method used in this research will be discussed in the survey application section of this report.

### **C. DATA COLLECTION PROCESS**

Research for this project involved preparing an anonymous survey with questions designed using the SERVQUAL model addressing NPS Contracting Office customer's expectations and perceptions of service quality provided by the NPS Contracting Office. The survey was sent to NPS faculty and staff members who have previous experience in dealing with the NPS Contracting Office. The survey was internet-based using LimeSurvey, and was strictly anonymous and voluntary.

Survey questions were multiple choice format using a Likert scale with choices ranging from 1 to 7; with 1 being "strongly disagree" and 7 being "strongly agree." Participants were e-mailed the survey instructions with a link to LimeSurvey. Once the initial e-mail was sent out, the survey was available for three weeks.

### **D. SAMPLE DESCRIPTION**

The subjects for this research consists of a sample of the population of customer supported by NPS Contracting Office. All subjects participating in this research are either DoD personnel and/or NPS employees. The sample size was 24. For this study, we chose to use McMillan and Schumacher's (1984) "purposeful sampling" approach to identify specific customers of the NPS Contracting Office who are knowledgeable and directly interact in the contracting process. Participants in this study were identified by a faculty member. This individual has a strong working relationship with the NPS Contracting Office and provided insight on the development of our customer list used in the study. Next, the methodology of the survey instrument used to collect data for this research will be discussed.

### **E. SURVEY INSTRUMENT**

The survey developed for this research was designed using the SERVQUAL method. The survey consisted of forty four questions, not including four additional miscellaneous questions. Questions 1–5 are designed to address the Reliability dimension of SERVQUAL. Within that dimension, each individual question is designed to address a



different sub-dimension to include: Fulfillment of Promises, Interest, Correctness, Punctuality, and Accuracy.

Questions 6–9 were designed to address the Responsiveness dimension with each individual question designed to address a different sub-dimension to include: Time Allotment, Promptness, Willingness to Help, and Response.

Questions 10–13 were designed to address the Assurance dimension with each individual question addressing the sub-dimensions including: Confidence, Security, Courtesy, and Knowledge.

Questions 14–18 were designed to address the Empathy dimension with each individual question addressing the sub-dimensions including: Attentiveness, Convenience, Personal Attention, Interests at Heart, and Needs.

Questions 19–22 were designed to address the Tangibles dimensions with each individual questions addressing the sub-dimensions of: Cleanliness, Professional Appearance, Training Materials, and Education. Finally, questions 23-24 were miscellaneous questions designed to assess customer expectations and perceptions regarding NPS Contracting Office’s support of the teaching and research mission.

In the development of the question verbiage, each question was altered slightly to tailor to the NPS Contracting Office organization and dynamic. As Young and Varble point out in their study, modifications to the question verbiage were required since the SERVQUAL method’s standard question verbiage was designed for the retailing context (Young & Varble, 1997). Modifications were also made to the sub-dimensions for the same reason.

Regarding the response to the questions, the SERVQUAL method of responses was not changed. Participants were required to use a Likert Scale by selecting one response to each question between 1 and 7, with the number 1 signifying the participant strongly disagrees and the number 7 signifying the participant strongly agrees (Parasuraman et al., 1998).

After participants completed the survey, responses were analyzed using statistical analysis to determine if a service quality gap exists, and if so, to determine the width of the gap. More information regarding the statistical analysis is provided in the next section.

## **F. METHOD OF STATISTICAL ANALYSIS**

For this study, we based the level and depth of statistical analysis upon the number of responses received. Out of 24 identified potential sample participants, we received 15 complete surveys for a response rate of 63 percent. Despite the strong response rate obtained, the relatively small population size limits our analysis and reporting of our findings using descriptive statistics.

We organized the survey data and separated the demographic responses from the SERVQUAL specific responses. Next, we further organized the SERVQUAL specific questions by separating both the expectation and perception responses and categorized them based on the five SERVQUAL dimensions (reliability, responsiveness, assurance, empathy, and tangibles) and a sixth miscellaneous dimension.

The next section discusses our research findings using descriptive statistics and the SERVQUAL performance gap method to analyze the service quality of the NPS Contracting Office.

## **G. FINDINGS**

For our findings, we first discuss the response data for the demographic questions of the survey. Refer to Appendix A for the demographics data obtained from all participants in the study. Second, we report on the responses received for SERVQUAL specific questions based on each SERVQUAL dimension.

### **1. Demographics**

The first demographic question on the survey asked each participant to identify the organization where they work. Of the organization responses listed in Figure 1, the

majority of the responses were from GSBPP (5), followed by SIGS (4), unknown (2), GSEAS (1), Dudley Knox Library (1), CCMR (1), and Research (1).

The second demographic question on the survey asked each participant to identify the department where they work. Figure 2 shows that the majority of participants chose not to list their department. Therefore, a total of 6 responses were received from unknown departments. Of those who chose to answer the question, participants from departments include National Security Affairs (3), Business and Public Policy (2), Space Systems (1), Research (1), SIGS Dean's Office (1), and Peacekeeping (1).

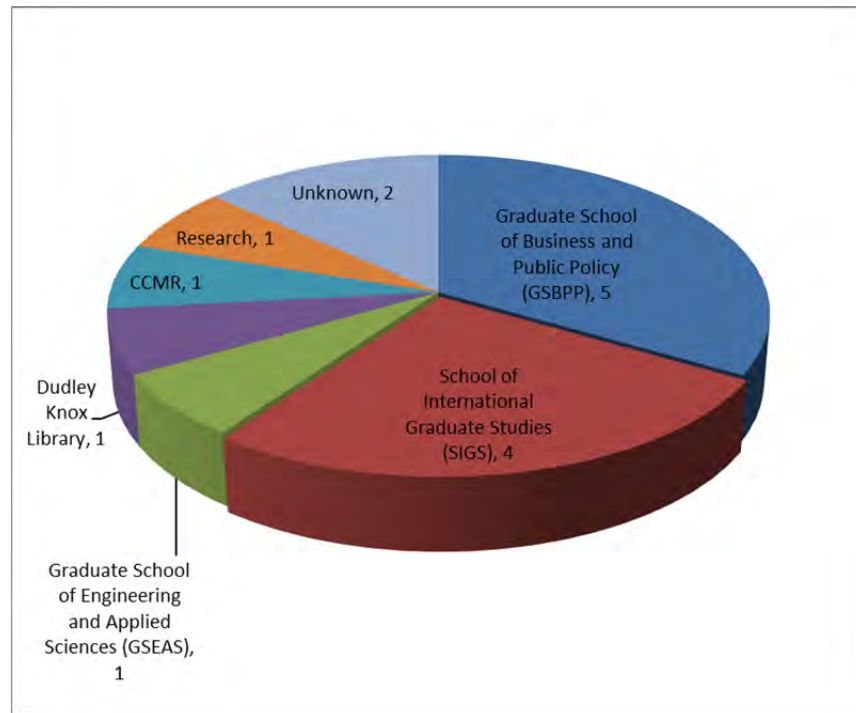


Figure 1. Organization Responses

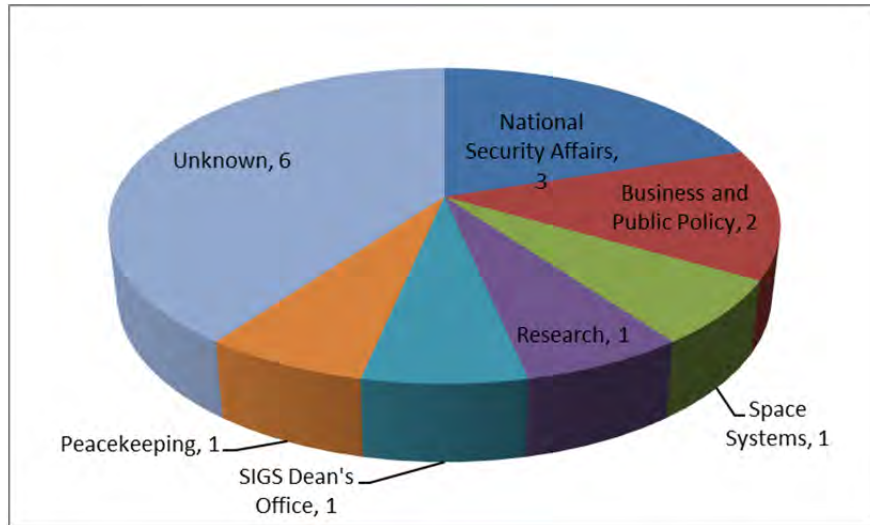


Figure 2. Department Responses

The third demographic question asked each participant if they were a member of NPS faculty or staff. Figure 3 shows out of fifteen responses, nine were members of the NPS faculty and six were members of the staff.

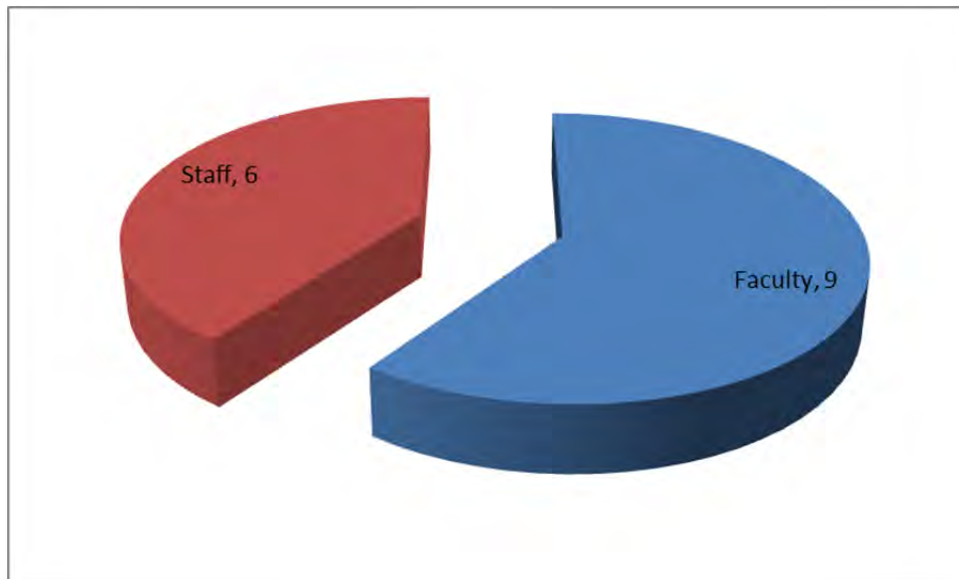


Figure 3. Response–Employment Type

Question 4 of the survey asked each participant to identify the number of times they utilized services provided by NPS Contracting Office in a 12-month period. Figure 4

shows that seven participants, or 47 percent, only utilized the NPS Contracting Office between one and five times. Five participants, or 33 percent, responded as having utilized NPS Contracting services more than ten times. Finally, three participants, or 20 percent, used NPS Contracting services between six to ten times.

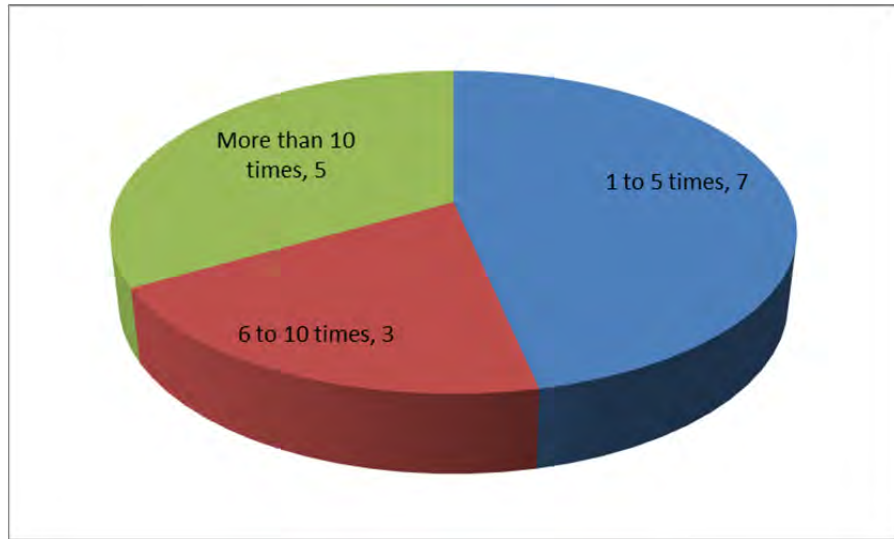


Figure 4. Response–Service Frequency

Question five asked participants about the number of years they have interacted with the NPS Contracting Office. Figure 5 shows that most participants, 9 total, have interacted with the NPS Contracting Office for more than five years. Five participants responded between two and five years of interaction, and one participant responded as having between one and two years of interaction with the NPS Contracting Office.

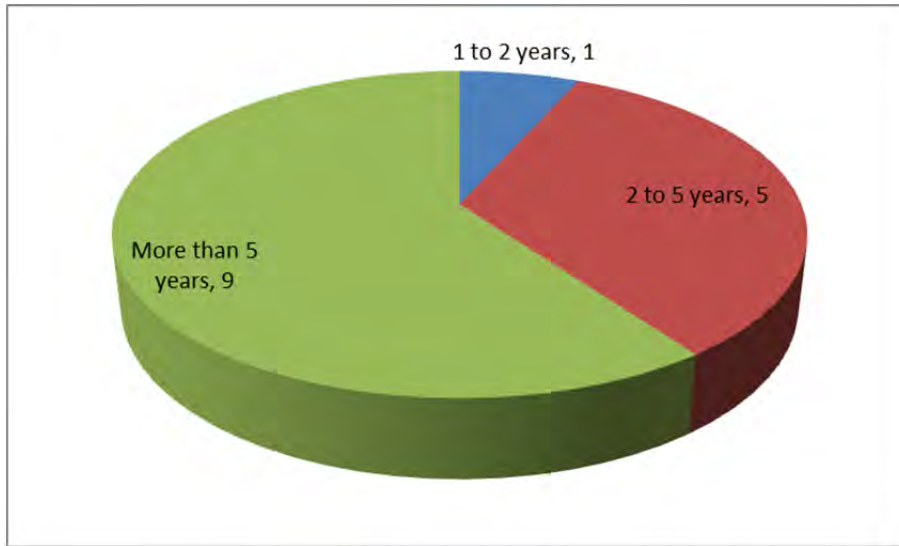


Figure 5. Response-Service Interaction

Finally, the last demographic question asked participants to identify the average dollar value of their purchase request submissions based on three categories. The categories include micro-purchase values less than \$3,000, values above the micro-purchase threshold (\$3,000) but below the simplified acquisition threshold (\$150,000), and values greater than the simplified acquisition threshold. In Figure 6, twelve participants, or 80 percent, selected between \$3,000 and \$150,000 as their average dollar value for purchase requests. Two participants, or thirteen percent, selected more than \$150,000. One participant, or seven percent, selected less than \$3,000 as their average dollar value for purchase requests.

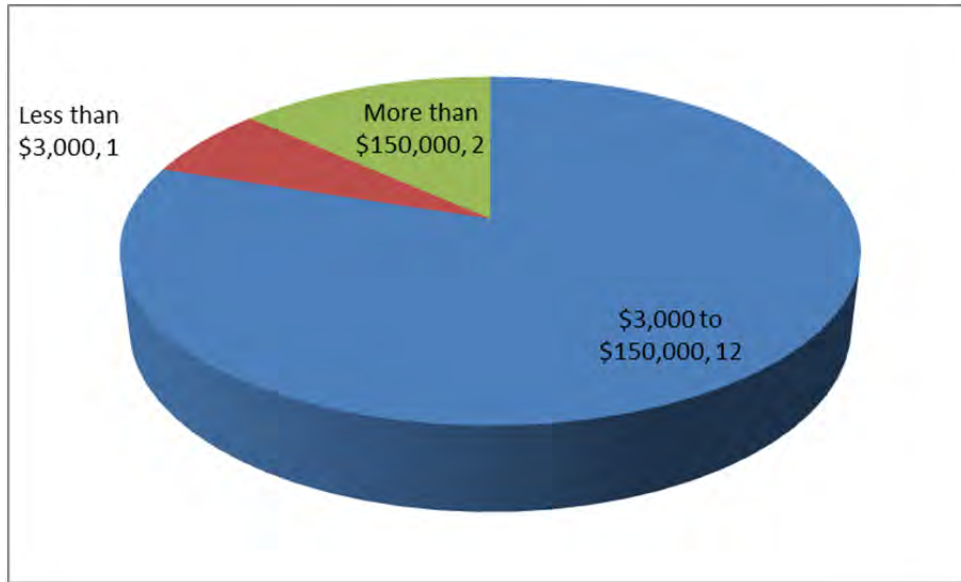


Figure 6. Response–Average Purchase Value

Next, we provide our findings on participant responses based on the five SERVQUAL dimensions which are listed in Appendix D. In Appendix E, you can view the SERVQUAL questionnaire that was provided to all participants for our research study.

## 2. Reliability Dimension

Each participant was asked five questions pertaining to the reliability dimension. Figure 7 provides participant response data regarding service expectations, service perceptions, and the overall expectation to perception gaps. On average, the reliability expectation dimension received a score of 6.71 which denotes that surveyed participants strongly agree that they should receive reliable contracting services. However, on average, the reliability perception dimension received a score of 2.35 which means that participants disagree that NPS contracting services are reliable overall. Additionally, the average expectation to perception gap is 4.36, indicating a large gap between the expectations of services that should be provided with the perceptions of services actually received.

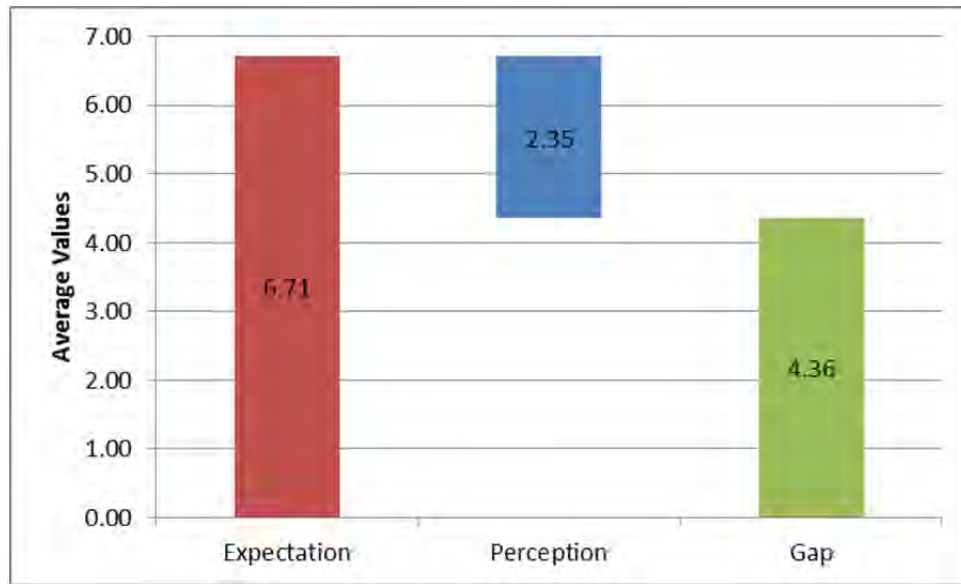


Figure 7. Reliability Dimension Averages

Furthermore, our findings identified two questions that had the widest expectation to perception gap. The first questions asked if the customer expects that a contracting office should promise to do something by a certain time and should do so. The second questions asked if the customer expects that a contracting office should provide service at the time promised to do so. The perception question asked participants if the NPS Contracting Office promises to do something by a certain time and does so and provides service at the time promised to do so.

The expectations to perception gaps for both questions were measured at 4.87. This denotes that customers strongly agree that a contracting office should promise to do something by a certain time and provides service at the time promised to do so. However, these gaps also denote that customers disagree that the NPS Contracting Office fulfills these expectation.

### 3. Responsiveness Dimension

Pertaining to the responsiveness dimension, each participant was asked a total of four questions. Figure 8 provides participant response data regarding service expectations, service perceptions, and the overall expectation to perception gaps. On average, the responsiveness expectation dimension received a score of 6.28 which



denotes that surveyed participants agree that they should receive responsive contracting services. However, on average, the responsiveness perception dimension received a score of 2.07 which means that participants disagree that NPS contracting services are responsive overall. Additionally, the average expectation to perception gap is 4.22, indicating a large gap between the expectations of services that should be provided with the perceptions of services actually received. Overall, the expectation to perception gap was equally wide for all questions within the responsiveness dimension.

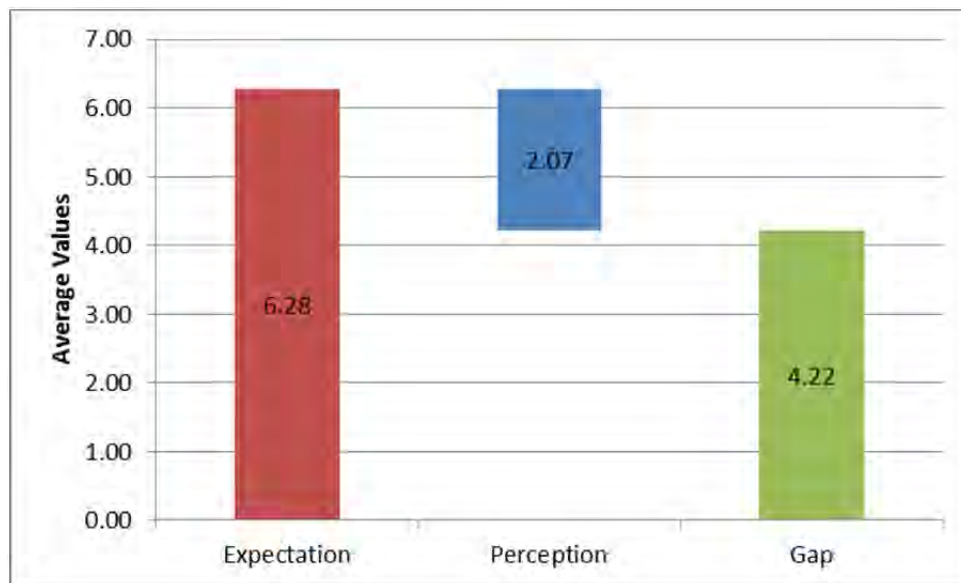


Figure 8. Responsiveness Dimension Averages

#### 4. Assurance Dimension

The third dimension is assurance which included a total of four questions focusing on competence, courtesy, credibility, and security. Figure 9 provides participant response data regarding service expectations, service perceptions, and the overall expectation to perception gaps. On average, the assurance expectation dimension received a score of 6.72 which denotes that surveyed participants strongly agree that they should receive competent, courteous, credible, and secured contracting services. However, on average, the assurance perception dimension received a score of 3.42 which means that participants somewhat disagree that NPS contracting services are assured overall.

Additionally, the average expectation to perception gap is 3.30, indicating a moderate gap between the expectations of services that should be provided with the perceptions of services actually received. Regarding the competence and security expectation and perception questions, the gap under these aspects of the assurance dimension is somewhat wider than the courtesy and credibility aspects of the assurance dimension.

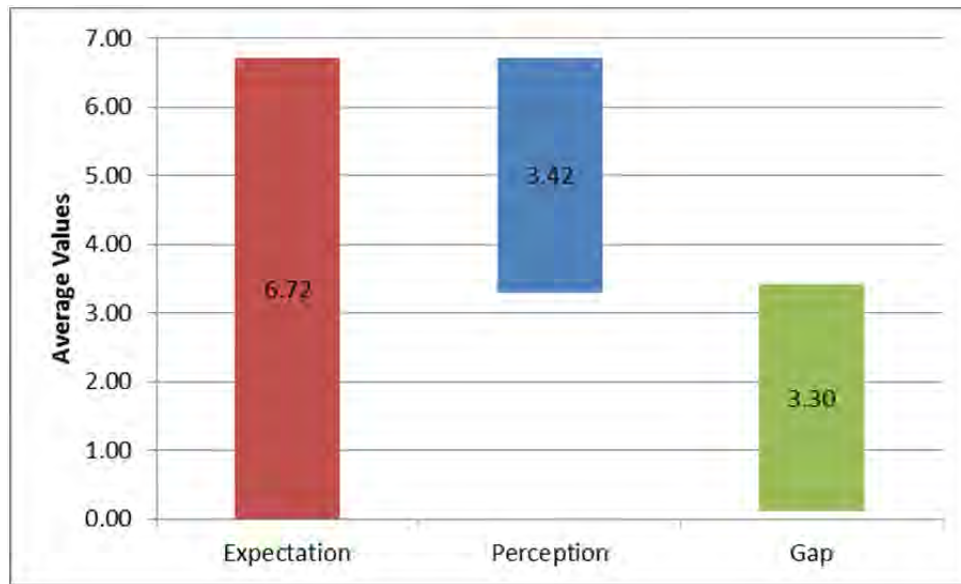


Figure 9. Assurance Dimension Averages

## 5. Empathy Dimension

Under the fourth dimension of empathy, there are a total of five questions which focus on access, communications, and understanding the customer. Figure 10 provides participant response data regarding service expectations, service perceptions, and the overall expectation to perception gaps. On average, the empathy expectation dimension received a score of 6.16 which denotes that surveyed participants agree that they should receive accessible, informed, and tailored contracting services. However, on average, the empathy perception dimension received a score of 3.25 which means that participants somewhat disagree that NPS contracting services are empathetic overall.

Regarding the aspect of convenience, participants agreed that a contracting office should have convenient office hours but neither agree nor disagree that the NPS Contracting Office's office hours are convenient with a gap of 2.91 being the narrowest gap of the empathy dimension.

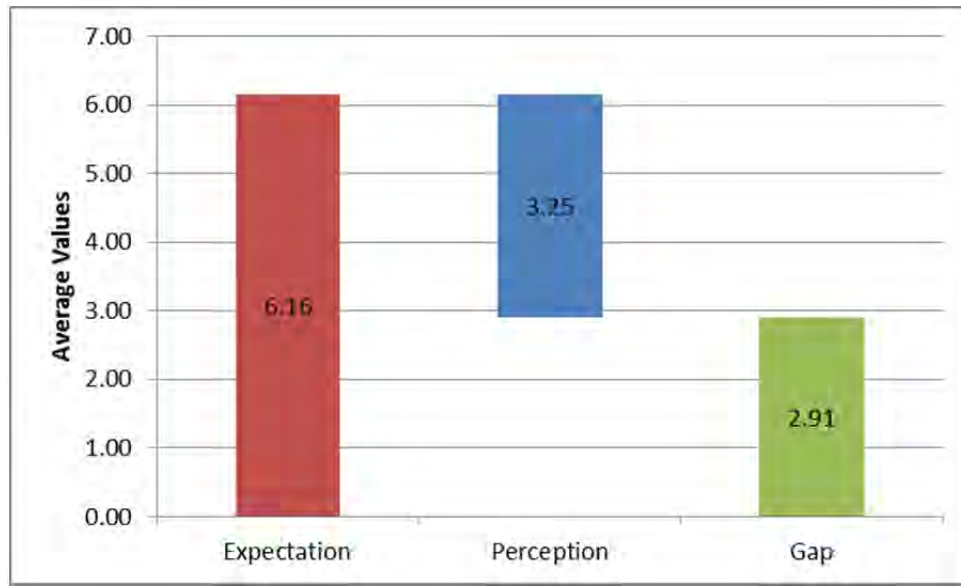


Figure 10. Empathy Dimension Averages

## 6. Tangibles Dimension

Tangibles are the fifth dimension and include a total of four questions. Figure 11 provides participant response data regarding service expectations, service perceptions, and the overall expectation to perception gaps. On average, the tangibles expectation dimension received a score of 5.97 which denotes that surveyed participants agree that they should receive tangible contracting services such as training and education. However, on average, the tangibles perception dimension received a score of 4.07 which means that participants neither agree nor disagree that NPS contracting provides tangible services overall. Compared to the other four dimensions, the tangibles dimension had the narrowest gap of 1.90.

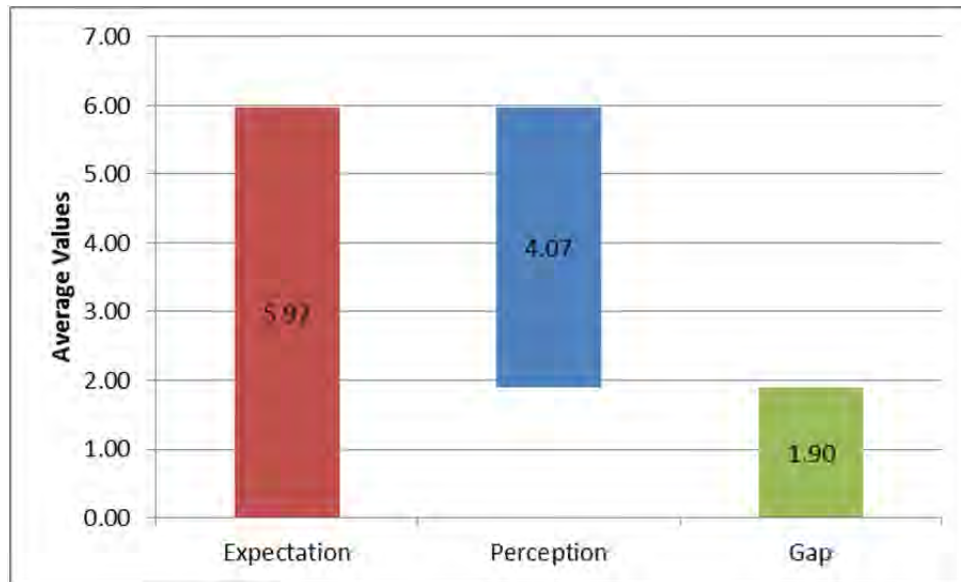


Figure 11. Tangibles Dimension Averages

## 7. Miscellaneous Dimension

The miscellaneous dimension included two questions regarding the teaching mission and the research mission of NPS. Figure 12 provides participant response data regarding service expectations, service perceptions, and the overall expectation to perception gaps. On average, the miscellaneous expectation dimension received a score of 6.77 which denotes that surveyed participants strongly agree that they should receive contracting services which support both the teaching mission and research mission. However, on average, the miscellaneous perception dimension received a score of 2.90 which means that participants somewhat disagree that NPS contracting provides contracting services which support both the teaching mission and research mission. Additionally, the average expectation to perception gap is 3.87, indicating a moderate gap between the expectations of services that should be provided with the perceptions of services actually received.

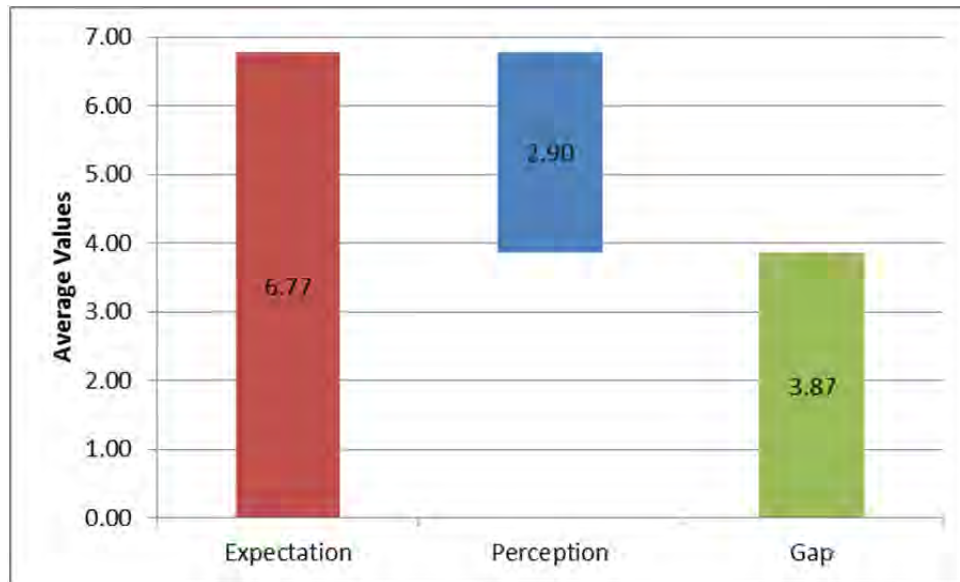


Figure 12. Miscellaneous Dimension Averages

Figure 13 provides an all-inclusive snapshot of all expectation, perception, and gap averages for each of the dimensions resulting from the survey. Figures 14 through 16 ranks the expectation, perception, and gap averages from highest to lowest among the dimensions.

Dimension	Expectations	Perceptions	Gap
Reliability	6.71	2.35	4.36
Responsiveness	6.28	2.07	4.22
Assurance	6.72	3.42	3.30
Empathy	6.16	3.25	2.91
Tangibles	5.97	4.07	1.90
Miscellaneous	6.77	2.90	3.87

Figure 13. Dimension Averages

Figure 14 depicts the expectation response averages from highest to lowest. The dimension with the highest expectation rating is the miscellaneous dimension. Once again, this dimension focuses on customer expectations of support services regarding the research and teaching mission. The assurance and reliability dimensions are slightly lower than the miscellaneous dimension and are both relatively equal. The next lowest

dimension is responsiveness, followed by empathy. The tangibles dimension had the lowest expectation rating.

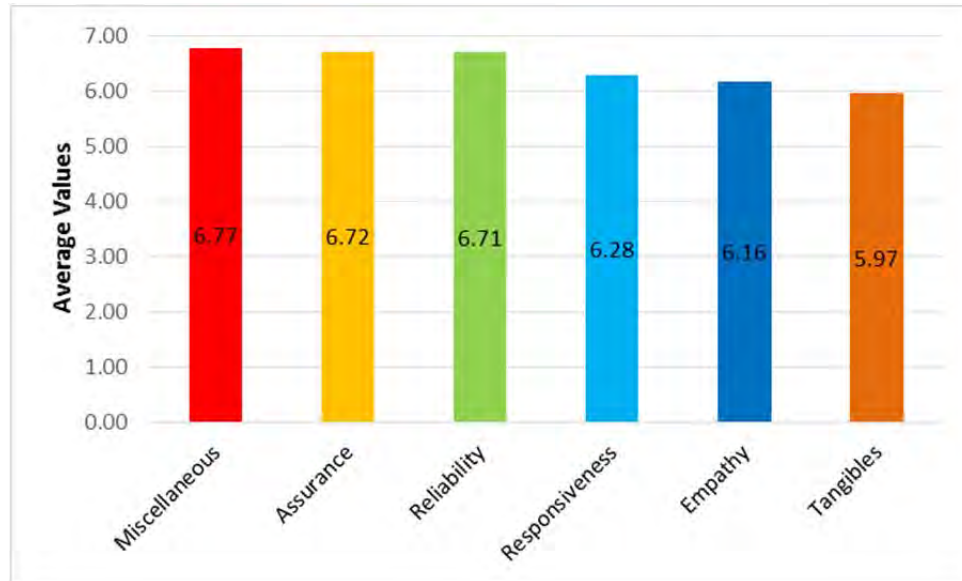


Figure 14. Expectation Averages

Figure 15 shows that perception averages in descending order. The highest rated perception of the NPS Contracting Office is in the tangibles dimension. The assurance and empathy dimensions were rated close to each other. Finally, the miscellaneous dimension was the next lowest, followed by reliability, and ending with responsiveness.

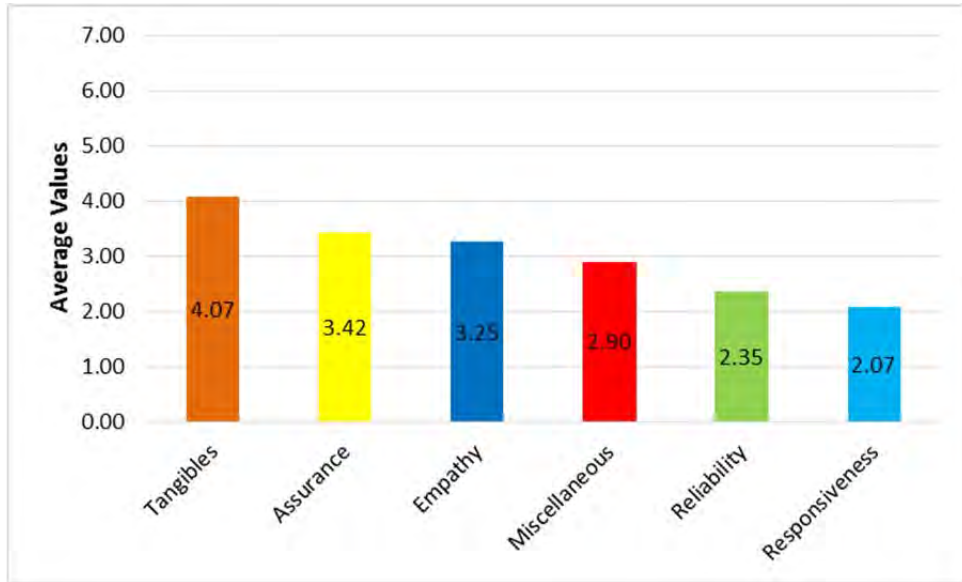


Figure 15. Perception Averages

Figure 16 illustrates the average gap across the dimensions in descending order. The dimension with the largest average gap was reliability. The responsiveness dimension average was just slightly lower than reliability. Next is the miscellaneous dimension followed by the assurance dimension being just slightly lower. The second lowest is the empathy dimension and ending with tangibles.

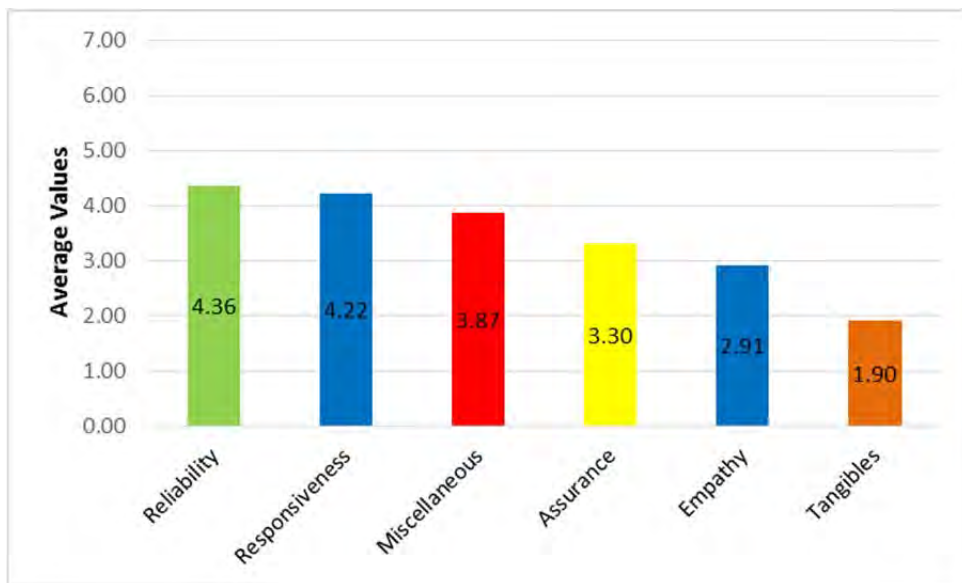


Figure 16. Average Gaps

This section provided the results and findings of the survey responses regarding the service quality of the NPS Contracting Office. In the next section, an analysis and discussion of our findings is provided.

## **H. ANALYSIS**

In this section, we provide our analysis of the findings from each of the SERVQUAL dimensions regarding NPS Contracting service quality. First, an analysis of the performance gap of each dimension is discussed. Then, the answers to our research questions are provided.

### **1. Reliability**

For this dimension, NPS Contracting customers expect a high degree of reliability from a contracting office. However, based on the survey responses, they do not perceive the NPS Contracting Office as reliable. Participants strongly agree that a contracting office should promise to do something by a certain time and should do so; show a sincere interest in solving problems; provide service correct the first time; and provide service at the time promised to do so. Participants somewhat agree that a contracting office should insist on error-free records.

On average, participants disagree that the NPS Contracting Office promises to do something by a certain time and does so; that they provide services at the time promised; and that they insist on error-free records. Participants somewhat disagree that the NPS Contracting Office shows a sincere interest in solving problems and that they provide service correct in the first place.

There are many factors which can be attributed to this service quality gap such as manning, unbalanced workload, poor time management, lack of attention to detail, and overall morale. Although this research does not identify specific causes, the widest performance gap of this study lies in the reliability dimension.



## **2. Responsiveness**

Within this dimension, NPS contracting customers expect a high level of responsiveness from a contracting office. Based on survey responses, participants do not perceive the NPS Contracting Office to be responsive. On average, participants strongly agree that a contracting office should provide prompt service and should always be willing to help. Participants agree that a contracting office should tell them exactly when services will be performed and should never be too busy to respond to their requests.

Based on responses, NPS Contracting customers disagree that the NPS Contracting Office tells them exactly when services will be performed; provides prompt services; and is never too busy to respond to their requests. Additionally, participants somewhat disagree that the NPS Contracting Office is always willing to help.

Some explanation for gaps in the responsiveness dimension could be the lack of customer focus, a mission-oriented focus versus customer-oriented focus, an unbalanced workload, and a stressful work environment. The direct cause of this performance gap was not identified, however, the responsiveness dimension had the second widest gap according to our study.

## **3. Assurance**

In this dimension, NPS contracting customers expect a high degree of assurance from a contracting office. In this dimension, participants somewhat disagree that the NPS Contracting Office provides assurance. On average, participants strongly agree that a contracting office should have confidence in their service; provide a sense of security with their transactions; be consistently courteous to them; and possess the knowledge to answer their questions.

Based on responses, participants somewhat disagree that the NPS Contracting Office provides a sense of security with their transactions and possesses the knowledge to answer their questions. Participants neither agree nor disagree whether the NPS Contracting Office has confidence in their service and is consistently courteous to them.

Although the assurance dimension does not have the widest performance gap, it is not the narrowest. Some explanations for gaps in the assurance dimension could be technical competence, training, tactfulness, and security protocols.

#### **4. Empathy**

For this dimension, NPS Contracting customers expect a contracting office to demonstrate a high degree of empathy. According to survey responses, participants somewhat disagree that the NPS Contracting Office demonstrates empathy. On average, participants agree that a contracting office should give them individual attention; have convenient operating hours; give personal attention; have their best interests at heart; and understand their specific needs.

Based on survey responses, participants disagree that the NPS Contracting Office understands their specific needs. Participants somewhat disagree that the NPS Contracting Office has their best interests at heart. Also, participants neither agree nor disagree that the NPS Contracting Office gives them individual attention; has convenient operating hours; and gives personal attention.

Our research shows that the empathy dimension has the second smallest gap. Nevertheless, this gap is still wide enough to require attention. Some possible explanations for this performance gap could be unbalanced workload, lack of customer focus, and operational policies.

#### **5. Tangibles**

In this dimension, NPS Contracting customers expect certain tangibles from a contracting office. From the survey responses, participants neither agree nor disagree that the NPS Contracting Office provides tangible services. Participants agree that a contracting office should be clean and orderly; have a professional appearance; provide training materials to their customers; and provide customer education.

For this dimension, participants neither agree nor disagree that the NPS Contracting Office is clean and orderly; provides training materials to them; and provides

customer education. Additionally, participants somewhat agree that the NPS Contracting employees have a professional appearance.

The survey identified this dimension as having the smallest performance gap. One explanation could be that tangible service may not be important to most customers. The two areas with the widest gaps in the tangibles dimension are for customer education and training materials.

## **6. Miscellaneous**

This dimension involved the NPS teaching mission and research mission. Under this dimension, participants expect a high level of support for these missions from a contracting office. However, participants do not perceive the NPS Contracting Office meeting their expectations. Overall, participants strongly agree that a contracting office should support the teaching mission and research mission.

On average, participants somewhat disagree that the NPS Contracting Office supports the teaching mission and the research mission. Many of the explanations as to the cause of this performance gap could be the same or similar to many of the possible explanations of performance gaps in the other five dimensions. The next section provides our recommendations for improvement.

## **I. RECOMMENDATIONS FOR IMPROVEMENT**

In this section, we provide our recommendations to assist the NPS Contracting Office in identifying service quality problem areas to further investigate the source of performance gaps identified in this research. Additionally, we discuss some procedures the NPS Contracting Office could implement to better improve their service quality and eliminate identified performance gaps.

### **1. Reliability Recommendations**

According to the survey data, participants disagree that the NPS Contracting Office promises to do something by a certain time and does so. To help alleviate this gap,

we recommend that the NPS Contracting Office establish standardized communication practices with their customers.

Establishing standard contracting process milestones and metrics will keep customers informed of the status of their requirements. Transparency and open communication networks are beneficial. Assigning an alternate point of contact for each requirement and providing customers with a contracting officer's contact information will ensure that customers will always have access to information on the status of their requirements.

It will also be helpful to provide training and education on improving customer relations and communications to each NPS Contracting staff member. As stated in our analysis, the reliability dimension contained the widest performance gaps of all the dimensions. Any improvement to these areas will result in improvement in the NPS Contracting Office's service quality as a whole.

## **2. Responsiveness Recommendations**

Resulting from the survey, participants disagree that the NPS Contracting Office tells them exactly when services will be performed, that they provide prompt service, and that they are never too busy to respond to their requests. We believe the same recommendations made for the reliability dimension of establishing standardized communication practices with their customers will help narrow this performance gap. Using milestones, metrics, and open communication will ensure that customers stay informed. A communication network between the customer, primary and alternate points of contact, and the contracting officer will ensure the NPS Contracting Office is accountable for the service they provide to their customers.

## **3. Assurance Recommendations**

Under this dimension, participants disagree that the NPS Contracting Office provides a sense of security with their transactions and possesses the knowledge to answer their questions. These are two areas where more information is required to determine the root causes for these gaps. Therefore, we recommend the NPS Contracting Office investigate these areas more thoroughly. We recommend the NPS Contracting

Office conduct additional inquiry by reaching out to customers for input on specific areas of customer service improvements. We also recommend the NPS Contracting Office seek feedback from customer at the conclusion of each procurement, similar to an after action report.

#### **4. Empathy Recommendations**

For this dimension, participants disagree that the NPS Contracting Office understands their specific needs. This area should be a concern and a priority for the NPS Contracting Office. It would be difficult for any contracting organization to achieve efficiencies or effectiveness if they do not understand their customer's needs. To mitigate this performance gap, we recommend that the NPS Contracting Office further investigate this specific area to determine how they can change their operational processes in order to improve their customer service during the requirements definition phase. We recommend that both contracting specialists and contracting officer's conduction face to face, multi-functional team meetings with all stakeholders of the requirement as early as possible.

Additionally, under this dimension, participants somewhat disagree that the NPS Contracting Office has their best interest at heart; and neither agree nor disagree that the NPS Contracting Office gives them individual attention; has convenient operating hours; and gives personal attention. For these gaps, we recommend that the NPS Contracting Office investigate these specific areas to further determine if root causes can be identified. Regarding customer's best interests and individual or personal attention, we recommend that the NPS Contracting Office's leadership evaluate their organization's mission and vision to ensure it meets their customer's expectations, and if one does not exist, establish a mission and vision to orient their service providers.

#### **5. Tangibles Recommendations**

The survey results showed that this dimension had the most narrow performance gaps; however, there are areas of the tangibles dimension that can be improved to offer a better customer experience. Under this dimension, participants neither agreed nor disagreed that the NPS Contracting Office is clean and orderly, that they provide training materials to them, and that they provide customer education.

Under this dimension, we recommend that the NPS Contracting Office evaluate, and if one does not exist, establish a customer education initiative. Providing the customer with education and training materials on contracting processes and procedures will ensure that customers are informed. This facilitates a better working relationship and results in more successful acquisition process.

## **6. Miscellaneous Recommendations**

Under this dimension, participants somewhat disagreed that the NPS Contracting Office supports the teaching mission and the research mission. Many of the explanations as to the cause of this performance gap could be the same or similar to many of the possible explanations of performance gaps in the other five dimensions such as education and training, customer interaction, etc. For this gap, we recommend that the NPS Contracting Office further investigate this area to identify specific characteristics concerning customer requirements that support the NPS teaching and research mission versus customer requirements that only support operational requirements, for example, requirements not related to the teaching or research mission.

Additionally, we recommend the NPS Contracting Office reach out to other DoD contracting organizations supporting educational institutions, such as Air Force Institute of Technology, service academies, or other professional military education organizations. The goal is to identify and implement best practices and lessons learned from other contracting organizations that provide academic and research-related support.

## **J. SUMMARY**

This chapter discussed the methodology of our research study starting with a discussion of SERVQUAL data analysis. Next, our data collection process, population data, and survey instrument was discussed. Additionally, the methodology for our statistical analysis was provided. Finally, our research findings, analysis, and recommendations for improvements were discussed. In the next chapter, we provide our research summary, conclusion, and areas for further research.

## **V. SUMMARY, CONCLUSION, AND AREAS FOR FURTHER RESEARCH**

### **A. SUMMARY**

This chapter provides a summary of our research, conclusion, and areas for further research. The purpose of this research study was to assess the service quality of the NPS Contracting Office in order to support the NPS president's directive to conduct a comprehensive study of the school's contracting office to "promote improvements in the use of contracts to accomplish the NPS mission" (R.A. Route, personal communication, March 18, 2014).

In chapter I we provided the background of our study and the importance of this research project. Our research identified specific service quality gaps by using the SERVQUAL quality service framework. Our objective was to answer three research questions. Specifically, we strived to determine if gaps existed between NPS faculty and staff's expectations and perceptions regarding NPS contracting service quality, to determine if expectation to perception gaps identified could be minimized or resolved, and to recommend actions the NPS Contracting Office could take to mitigate identified performance gaps.

This is the first study conducted on the NPS Contracting Office using the SERVQUAL model. Our SERVQUAL customer survey collected data on NPS faculty and staff expectations on contracting service quality they expect to receive and perceptions of the services they actually received from the NPS Contracting Office. This research also developed a conceptual framework for using SERVQUAL to measure service quality of contracting support in other DoD organizations. The next section concludes our study and provides the answers to our research questions.

### **B. CONCLUSION**

The purpose of this research was to analyze NPS contracting customers' expectations and perceptions pertaining to NPS contracting services. As mentioned previously, the contracting function at the installation level is increasing in size and

complexity. Managers are relying more on external contractors to support internal mission requirements. The increased demand for contract support highlights the importance of quality contracting support services to ensure customers are receiving the best possible products or services required. Therefore, the constant demand for NPS contracting support emphasizes the need for NPS contracting personnel to provide quality and reliable support. Unless the NPS Contracting Office provides quality contracting support, internal customers will become dissatisfied with contracting services and the mission will be placed at risk. Overall, our study indicates that there are gaps between the expectations of contracting services provided by the NPS Contracting Office and the perceptions of contracting services received.

The following is our answers to our research questions presented in chapter I based upon our research and the results of the service quality survey.

**Research Question 1:** Is there a gap between NPS faculty and staff's expectations of the quality of service the NPS Contracting Office should provide and their perceptions of the quality of service they received?

Based on the customer survey responses and our analysis of the data, there is overwhelming evidence of a gap between the NPS faculty and staff's expectations of service quality and their perceptions of the service quality received by the NPS Contracting Office. Of the fifteen responses received, all fifteen responses showed gaps in most of the service quality dimensions, if not all of them.

**Research Question 2:** Can the identified expectation and perception gaps of service quality be resolved or minimized to improve customer relations?

We believe, if the root causes resulting in the performance gaps identified in this study can be properly identified, then there are many ways these gaps can be resolved or minimized to improved customer relations. The identified gaps can be attributed to lack of communication standards such as point of contact redundancy, customer education and training, customer feedback, customer collaboration and personal attention, and misaligned objectives between the operational contracting mission and NPS's teaching and research mission. The first step towards solving a problem is to realize that a problem



exists and to adequately identify it. Through this study, we can only speculate as to the causes of the performance gaps that have been identified. However, some recommendations which may help improve or minimize the expectation to perception gap are provided in the next section.

**Research Question 3:** What can the NPS Contracting Office do to mitigate gaps within expectations and perceptions of service quality?

In order for the NPS Contracting Office to mitigate the performance gaps attributed to communication, customer education and training, customer feedback, collaboration, personal attention, and misaligned objectives between the contracting and NPS mission, they will first need to be made aware of this research and the results of the customer service quality survey. Once they are aware of these gaps and the severity of each dimension, they can best decide the area and appropriate amount of resources to devote toward improving their service quality and narrowing the performance gap associated.

Our research provides NPS leaders the results of the SERVQUAL quality data collected, a detailed analysis of our findings, and recommended actions for the contracting office to enhance their service quality and customer relations. The next section discusses other areas for further research to improve contracting support at NPS or other DoD organizations.

### **C. AREAS FOR FURTHER RESEARCH**

The first area for further research would be a similar study repeated in one to two years to determine if the NPS Contracting Office has made any noticeable improvements in service quality. Nevertheless, the SERVQUAL performance gaps identified within the NPS Contracting Office must be further investigated through process analysis to determine the root causes and to provide recommendations for improvements. Once the process analysis is accomplished, and recommendations for improvements are implemented, another similar study should be repeated to assess whether NPS Contracting Office performance gaps have improved, are still present, or have widened.

Other areas for further research include using the SERVQUAL model to identify and analyze the service quality of contracting offices supporting other DoD academic institutions. Contracting offices at the Air Force Institute of Technology (AFIT) or the military service academies including the Air Force Academy or Naval Academy would benefit from this study. These defense institutions all have similar academic missions. Thus, a SERVQUAL study can be compared across each academic institution to determine contracting service quality trends, best practices, and lessons learned. Finally, the SERVQUAL model can be applied to any defense contracting agency or tailored to any organization within the executive branch that wishes to measure internal customer service quality.

## APPENDIX A. CUSTOMER DEMOGRAPHICS DATA

Organization: Which graduate school, center, directorate, or program do you work in?	
	Total
Graduate School of Business and Public Policy (GSBPP)	5
School of International Graduate Studies (SIGS)	4
Graduate School of Engineering and Applied Sciences (GSEAS)	1
Dudley Knox Library	1
CCMR	1
Research	1
Unknown	2
Grand Total	15
Department: Which department do you work in? This question is not mandatory to continue with the survey.	
	Total
National Security Affairs	3
Business and Public Policy	2
Space Systems	1
Research	1
SIGS Dean's Office	1
Peacekeeping	1
Unknown	6
Grand Total	15
Employment Type: Are you a member of NPS faculty or staff?	
	Total
Faculty	9
Staff	6
Grand Total	15
Service Frequency: Over the past 12 months, how many times have you utilized services provided by the NPS Contracting office?	
	Total
1 to 5 times	7
6 to 10 times	3
More than 10 times	5
Grand Total	15
Interaction: How many years have you interacted with the NPS Contracting office?	
	Total
1 to 2 years	1
2 to 5 years	5
More than 5 years	9
Grand Total	15
Average Purchase Value: On average, what is the value of your purchase requests?	
	Total
\$3,000 to \$150,000	12
Less than \$3,000	1
More than \$150,000	2
Grand Total	15

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## APPENDIX B. QUALITY DEFINITIONS REFLECTING FIVE DIFFERING PERSPECTIVES

<i>Category</i>	<i>Description</i>
<b>1. Transcendent</b>	According to the transcendent view, quality is innate excellence and can be recognized only through experience. In other words, “You cannot define quality but you know it when you see it.” It, however, provides little practical guidance to managers in the quest for quality.
<b>2. Product-based</b>	Product-based definitions rely on measurable quantities to define quality. For goods, the measures may include length of useful life, amount of a desirable ingredient (e.g., “100% cotton”) or amount of a desirable output (e.g., “45 miles per gallon”). For services an example might be the length of time before a service is provided. Because it is based on measurable quantities, this definition allows an objective assessment of quality. The disadvantage of a product-based definition is that it assumes all customers desire the same attributes and hence fails to account for differences in tastes and preferences of individual consumers.
<b>3. User-based</b>	This approach to defining quality begins where the product-based definition ends; it defines quality from an individual consumer’s perspective. The “fitness for use” definition of quality is consistent with this approach. In other words, it is based on the premise that “quality is in the eyes of the beholder.” For example, a tastefully prepared and presented meal that takes 30 minutes to deliver to a customer’s table may be seen as a sign of poor quality if the meal is for lunch and the customer is in a hurry. The subjectivity of this approach leads to two problems: (1) how to decide which attributes should be included in a good or service to appeal to the largest numbers of customers, and (2) how to differentiate between attributes that provide satisfaction and those that imply quality.
<b>4. Manufacturing-based</b>	Manufacturing-based definitions view quality as an outcome of engineering and production processes. According to this approach, quality is “conformance to requirements.” In other words, how well does the output match the design specifications? For example, if an airline service specifies arrival within 15 minutes of the schedule, the level of quality in terms of this specification can easily be determined by comparing actual flight arrivals with the schedule. The disadvantage of this approach is that, unless specifications are based on customers’ needs and preferences, quality becomes an internal issue that helps simplify production control but fails to deliver what customers want.
<b>5. Value-based</b>	This approach incorporates value and price into the definition of quality. Quality is defined as a balance between conformance or performance and an acceptable price to the customer.

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## APPENDIX C. TEN DIMENSIONS OF SERVICE QUALITY

Dimensions and Definition	Examples of Specific Questions Raised by Customers
<b>Tangibles:</b> Appearance of physical facilities, equipment, personnel, and communication materials	Are the bank's facilities attractive? Is my stockbroker dressed appropriately? Is my credit card statement easy to understand? Do the tools used by the repair person look modern?
<b>Reliability:</b> Ability to perform the promised service dependably and accurately	When a loan officer says she will call me back in 15 minutes, does she do so? Does the stockbroker follow my exact instructions to buy or sell? Is my credit card statement free of errors? Is my washing machine repaired right the first time?
<b>Responsiveness:</b> Willingness to help customers and provide prompt service	When there is a problem with my bank statement, does the bank resolve the problem quickly? Is my stockbroker willing to answer my questions? Are charges for returned merchandise credited to my account properly? Is the repair firm willing to give me a specific time when the repair person will show up?
<b>Competence:</b> Possession of the required skills and knowledge to perform the service	Is the bank teller able to process my transactions without fumbling around? Does my brokerage firm have the research capability to accurately track market developments? When I call my credit card company, is the person at the other end able to answer my questions? Does the repair person appear to know what he is doing?
<b>Courtesy:</b> Politeness, respect, consideration, and friendliness of contact personnel	Does the bank teller have a pleasant demeanor? Does my broker refrain from acting busy or being rude when I ask questions? Are the telephone operators in the credit card company consistently polite when answering my calls? Does the repair person take off his muddy shoes before stepping on my carpet?
<b>Credibility:</b> Trustworthiness, believability, honesty of the service provider	Does the bank have a good reputation? Does my broker refrain from pressuring me to buy? Are the interest rates/fees charged by my credit card company consistent with the services provided? Does the repair firm guarantee its services?
<b>Security:</b> Freedom from danger, risk, or doubt	Is it safe for me to use bank's automatic teller machines? Does my brokerage firm know where my stock certificate is? Is my credit card safe from unauthorized use? Can I be confident that the repair job was done properly?
<b>Access:</b> Approachability, and ease of contact	How easy is it for me to talk to senior bank officials when I have a problem? Is it easy to get through to my broker over the telephone? Does the credit card company have a 24-hour, toll free telephone number? Is the repair service facility conveniently located?
<b>Communications:</b> Keeping customers informed in language they can understand and listening to them	Can the loan officer explain clearly the various charges related to the mortgage loan? Does my broker avoid using technical jargon? When I call my credit card company, are they willing to listen to me? Does the repair firm call when they are unable to keep a scheduled repair appointment?
<b>Understanding the Customer:</b> Making the effort to know customers and their needs	Does someone in my bank recognize me as a regular customer? Does my broker try to determine what my specific financial objectives are? Is the credit limit set by my credit card company consistent with what I can afford (i.e., neither too high nor too low)?

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**APPENDIX D. CORRESPONDENCE BETWEEN SERVQUAL DIMENSIONS AND ORIGINAL TEN DIMENSIONS FOR EVALUATING SERVICE QUALITY**

SERVQUAL DIMENSIONS					
Original 10 Dimensions	Tangibles	Reliability	Responsiveness	Assurance	Emphaty
Tangibles					
Reliability					
Responsiveness					
Competence					
Courtesy					
Credibility					
Security					
Access					
Communication					
Understanding the Customer					

(Zeithaml et al., 1990, p. 25)

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## APPENDIX E. SERVQUAL SURVEY QUESTIONNAIRE

### Demographic Questions

1. Organization: Which graduate school, center, directorate, or program do you work in?

Please choose **only one** of the following:

- Graduate School of Business and Public Policy (GSBPP)
- Graduate School of Engineering and Applied Sciences (GSEAS)
- Graduate School of Operational and Information Sciences (GSOIS)
- School of International Graduate Studies (SIGS)
- Other

2. Department: Which department do you work in?

This question is not mandatory to continue with the survey.

Please choose **only one** of the following:

- Applied Mathematics
- Business and Public Policy
- Computer Science
- Defense Analysis
- Electrical and Computer Engineering
- Information Sciences
- Mechanical and Aerospace Engineering
- Meteorology
- National Security Affairs
- Oceanography
- Operations Research
- Physics
- Systems Engineering
- Other

3. Employment Type: Are you a member of NPS faculty or staff?

Please choose **only one** of the following:

- Faculty       Staff       Other

4. Service Frequency: Over the past 12 months, how many times have you utilized services provided by the NPS Contracting office?

Please choose **only one** of the following:

- None  
 1 to 5 times  
 6 to 10 times  
 More than 10 times

5. Interaction: How many years have you interacted with the NPS Contracting office?

Please choose **only one** of the following:

- Less than 1 year  
 1 to 2 years  
 2 to 5 years  
 More than 5 years

6. Average Purchase Value: On average, what is the value of your purchase requests?

Please choose **only one** of the following:

- Less than \$3,000  
 \$3,000 to \$150,000  
 More than \$150,000

## RELIABILITY DIMENSION EXPECTATION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. A contracting office should promise to do something by a certain time, and should do so.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. A contracting office should show a sincere interest in solving my problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A contracting office should provide service correct in the first place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. A contracting office should provide services at the time promised to do so.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. A contracting office should insist on error-free records.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## RESPONSIVENESS DIMENSION EXPECTATION QUESTIONS

Please choose the appropriate response for each item:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree
	1	2	3	4	5	6	7
1. A contracting office should tell me exactly when services will be performed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. A contracting office should provide prompt service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A contracting office should always be willing to help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. A contracting office should never be too busy to respond to my requests.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## ASSURANCE DIMENSION EXPECTATION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. A contracting office should have confidence in their service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. A contracting office should provide a sense of security with my transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A contracting office should be consistently courteous to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. A contracting office should possess the knowledge to answer my questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## EMPATHY DIMENSION EXPECTATION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. A contracting office should give me individual attention.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. A contracting office should have convenient operating hours.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A contracting office should give personal attention.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. A contracting office should have my best interests at heart.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. A contracting office should understand my specific needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## TANGIBLES DIMENSION EXPECTATION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>	
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. A contracting office should be clean and orderly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. A contracting employee should have a professional appearance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A contracting office should provide training materials to their customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. A contracting office should provide customer education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## MISCELLANEOUS DIMENSION EXPECTATION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>	
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. A contracting office should support the teaching mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. A contracting office should support the research mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## RELIABILITY DIMENSION PERCEPTION QUESTIONS

The following questions are in regard to your PERCEPTIONS of the Naval Postgraduate School (NPS) contracting office SPECIFICALLY.

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. The NPS Contracting Office promises to do something by a certain time, and does so.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The NPS Contracting Office shows a sincere interest in solving my problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The NPS Contracting Office provides services correct the first time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The NPS Contracting Office provides services at the time they promise to do so.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The NPS Contracting Office's records are error-free.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## RESPONSIVENESS DIMENSION PERCEPTION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. The NPS Contracting Office tells me exactly when a service will be performed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The NPS Contracting Office provides prompt service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The NPS Contracting Office is always willing to help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The NPS Contracting Office is never too busy to respond to my request.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## ASSURANCE DIMENSION PERCEPTION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. The NPS Contracting Office has confidence in their service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The NPS Contracting Office provides a sense of security with my transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The NPS Contracting Office is consistently courteous to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The NPS Contracting Office has the knowledge to answer my questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## EMPATHY DIMENSION PERCEPTION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. The NPS Contracting Office gives me individual attention.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The NPS Contracting Office has convenient operating hours.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The NPS Contracting Office gives me personal attention.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The NPS Contracting Office has my best interests at heart.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The NPS Contracting Office understands my specific needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## TANGIBLES DIMENSION PERCEPTION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. The NPS Contracting Office is clean and orderly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The NPS Contracting employees have a professional appearance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The NPS Contracting Office provides training materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The NPS Contracting Office provides customer education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## MISCELLANEOUS DIMENSION PERCEPTION QUESTIONS

Please choose the appropriate response for each item:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree or Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. The NPS contracting office supports my teaching mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The NPS contracting office supports my research mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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