

U.S. Government Acquisition Reform and its Influence on Defense Contracting,  
Innovation, Diversification, and Collaboration

by

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Doctor of Business Administration:

“U.S. Government Acquisition Reform and its influence on Defense Contracting, Innovation, Diversification, and Collaboration,”

a Dissertation by Edgar Quinones.

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## **Abstract**

TITLE: U.S. Government Acquisition Reform and its Influence on Defense

Contracting, Innovation, Diversification, and Collaboration

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Acquisition reform has been active within the Defense Industry for over two centuries and continues to this day for the Federal Government. Recently, due to sequestration, high national debt, and political pressures, the Weapon System Acquisition Reform Act (WSARA) and Better Buying Power (BBP) was put into action, in 2009 and 2010 respectively, as a way to further streamline the Defense Industry.

This study examined the Defense Industry's attitudes and coping strategies (focused on 'countervailing power') deal with the actions and the influence of a monopsonist (sole) buyer on the contracting process and how that ultimately affects costs, industry strategy, innovation, and diversification. Through the utilization of descriptive design survey-based methodology, theory-based hypotheses were tested.

The study found that perceptions of BBP indicate an impact to contract costs, innovation, industry collaboration, and diversification. The implications of these findings set the groundwork for future research on the complicated

relationship between the Government and the Defense Industry especially in terms of the BBP.

Key Words: Monopsony, Transaction Costs, Pluralism, Better Buying Power, Defense Industry, Arms Market, Acquisition Reform, Competitive Collaboration, Innovation, Diversification, and Perceived Contractual Costs.

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## **Dedication**

I dedicate this to my family, my mother (Connie Quinones) and father (Edgar Quinones Sr.) who never gave up on me and for their prayers, words of advice, encouragement, and support. I also would like to dedicate this to my brother (Jason Quinones) for his encouragement and support. Finally, I dedicate this dissertation to God for making all things possible.

## **Chapter 1: Introduction**

### **Overview**

Due to high national debts and budgetary constraints, acquisition reform has recently become (and continues to be) a topic of interest in the Defense Industry (NDIA, 2014). After the 2008 fiscal crisis, federal budgets have been placed in a period of automatic cuts, one of which being defense spending (McLean, 2015). Such restrictions have put pressure on the Government to enact acquisition reform within the Defense Industry to save money with a shrinking budget. However, acquisition reform in of itself is not a new topic, according to Fox (2012); acquisition reform has been going on since the sixties and even much earlier. In one of its latest series of acquisition reforms, the United States Department of Defense launched the Better Buying Power (BBP) program in 2010. The purpose of this program is to streamline the defense acquisition supply chain, reduce costs, and increase the buying power of the U.S. Government (Kendall, 2016). BBP's main goals are to achieve affordable programs, control lifecycle costs, incentivize productivity and innovation, eliminate wastes, promote competition, improve tradecraft in services, and improve professionalism in the acquisition workforce. A further breakdown of BBP is provided in Chapter 2.

The following dissertation was written to expand the stream of literature, within the field of 'industrial organization' in the context of monopsonies in an attempt to build a framework summarizing the Defense Industry's strategies to

mitigate high buyer power. Examples of acquisition reform, such as BBP, provide a lens by which to investigate how monopsonistic buyer behavior influences contractual expenses (NDIA, 2014). Whereas a monopoly occurs when there is one seller or one major seller in an industry (Panzar & Rosse, 1987), a monopsony occurs when there is one buyer or one major buyer within a market (Organization for Economic Co-Operation and Development (OECD), (2008). Even though the Defense Industry has multiple buyers, which includes, the U.S. Government, Foreign Governments, other defense companies, and commercial buyers, the U.S. Government is the biggest buyer and considered the largest customer in the world by the Small Business Administration (SBA) (2017). However, given that the U.S. Government must approve all import and exports of defense sales, and international sales are typically Foreign Military Sale (FMS) contracts where the U.S. Government is the intermediary, the U.S. Government, in reality, acts as the sole buyer and can act like a monopsony.

Therefore, this study is concerned with how the Defense Industry sellers perceive and strategize for this monopsonistic relationship in an environment where transaction costs are paramount. The next section introduces the applied theories and concepts that guided the research within this study.

### **Conceptual Framework**

The study used industrial organization as its framework theory. The concept of industrial organization is concerned with the level of market/industry

power firms and buyers have in relation to each other (Jacquemin, 1987). For sellers it is a continuum of increasing market power from perfect competition (low market power) (Chamberlin, 1933), monopolistic competition (some market power) (Robinson, 1969), oligopoly (high market power) (Bain, 1949), and monopoly (full market power) (Demsetz, 1973). On the other end, buyers have a continuum, as well, in as it relates to power over the industry. For buyers, the continuum consists of fragmented buyers (low industry power) (Cox, 2001), customers with bargaining power (some industry power) (OECD, 2008), oligopsony (high industry power) (Bhaskar & To, 2003), and monopsony (total industry power) (Caves, 1980).

Primarily, the literature covering monopsonies are focused on employer monopsonists who are customers of labor (Bhaskar and Manning, 2002), (Manning, 2003), and (OECD, 2008) or monopsonists who acquire products and services from suppliers and sell to an end user such as Amazon (Krugman, 2014) or Walmart (Jimenez, 2002). This study instead examines a monopsonist (U.S. Government) that acquires products and services as opposed to an employer monopsonist, who acquires labor, as well as a monopsonist that serves as an end user of the acquired products and services, and thus does not only sell to another customer. Thus, this study focused on the buyer perspective as it pertains to industry and focusing solely on monopsonistic power as it relates to the U.S. Government and their implementation of acquisition reform through BBP. The concept of monopsonies, while discussed in the literature, is far less developed in comparison to monopolies.

According to the OECD (2008), a monopsonist has the following characteristics:

- Is a sole buyer or a very large buyer
- Can extract quasi-rents by reducing costs and to some extent can be classified as a “Price Maker,” which is able to influence and potentially determine prices
- Has strong bargaining power
- Suppliers selling to the buyer have a high level of financial dependency on the monopsonist
- The goal of this type of buyer is to minimize costs as opposed to the goal of the firm to maximize profits

This study examined the relationship between BBP’s implementation and its impact on ‘Transaction Costs’ by looking at how the Defense Industry perceives changes in contract costs in response to monopsonistic influence via acquisition reform and in order to investigate the pros and cons of BBP. In addition, this study examined how the Defense Industry has been impacted by these changes and provided recommendations to both the U.S. Government and the Defense Industry on potential path forwards. This study then examined the trends in competitive collaboration in order to understand current levels of countervailing power, a method designed to counter a monopsonist’s bargaining power through collaboration (OECD, 2008). Thus, this concept is a contribution to Industrial

Organization literature in that normally this enactment of countervailing power is discussed from the opposite perspective of dealing with a monopolist, rather than the collaboration required to influence the bargaining power of a monopsonist. A further contribution is provided by examining this collaboration from two perspectives: political influence ‘pluralism’ and competitive collaboration ‘co-opetition’. The contribution of the study will be discussed further in Chapter 5 after the findings section. The following section presents the research questions and is followed by a discussion of how this study contributes to the Industrial Organization literature and the resulting managerial implications.

Note: Appendix A contains the common definitions and acronyms used throughout this dissertation.

### **Questions that Guide the Research**

1. How does monopsonistic behavior, through acquisition reform, influence perceived contract costs?
2. How does monopsonistic behavior, through acquisition reform, impact innovation in the long term?
3. How is countervailing power being utilized within the Defense Industry as a result of monopsonistic influence through acquisition reform?
4. How has acquisition reform influenced commercial diversification?

## **Literature Contribution and Managerial Implications**

According to Galbraith (2017), countervailing power works in a monopoly case but is limited as a method for mitigating monopsonistic power. This is due to the fact that fragmented buyers can legally work together to increase their bargaining power against a monopolist, but for suppliers to work together against a monopsonist, there is risk of anti-trust law violations (Green and Porter, 1984). Thus, suppliers cannot collude to fix prices and have to collaborate in other ways to increase their bargaining power. Therefore, examining the methods how suppliers collaborate to increase their bargaining power is the importance of this study. For example, the Federal Trade Commission forbids anti-competitive measures such as price-fixing, bid-rigging, and illegal group boycotts (FTC, 2000). It was the intent of this study to explore the methods an industry can utilize to create and maintain countervailing power that does not violate anti-trust laws but can be utilized to mitigate monopsonistic power (Blair & Harrison, 1993). For example, the FTC acknowledges that sometimes competitors collaborate and encourages it in cases such as expanding into foreign markets, funding expensive innovative projects, and lowering production and other costs (FTC, 2000).

By gathering, critiquing, and generalizing the Defense Industry perspectives and strategies to mitigate the bargaining power of a monopsonist (the U.S. Government), a framework was developed for managerial use within the context of

acquisition reform (BBP) this framework is provided in Chapter 5. Results from this framework may also translate to other industries with monopsonistic buyers.

Finally, this study assisted in providing a better understanding of the potential tradeoff between a focus on reducing productions costs (execution costs), via BBP (Kendall, 2015) at the expense of transaction costs (contract costs) due to the increased costs for contract compliance. At present, BBP seeks to reduce lifecycle program costs (execution costs) by creating incentive-based contracts (Kendall, 2015). This focus on program costs could inadvertently increase transaction costs due to changes in contract types based on the concept of ‘contract inertia,’ i.e. the costs of attempting to change standard contracting approaches (Korobkin, 1998). Thus, this study investigated the impacts of these contract costs as a result of BBP. Therefore, these impacts, which will be expand upon further in Chapters 4 and 5, demonstrated that there is a perception of cost increases as a result of BBP. The next section discusses the layout of the paper and the path dynamics of the study.

### **Organization of the remainder of the Paper**

This section discusses the layout of the paper and the path dynamics of the study. The remainder of this dissertation has been broken into four additional chapters following Chapter 1’s Introduction. Chapter 2 goes over the review of the literature in which discussions of theoretical frameworks are analyzed and synthesized. Chapter 3 goes over the utilized methods, which included a

descriptive statistical analysis and grounded theory utilizing a survey method for data collection. Chapter 4 discusses the findings of the study. Chapter 5 discusses the implications of the findings. The front-end of the paper laid the groundwork for the proposed study and the back-end includes the research findings of the completed study. The research dissertation followed the writing guidelines of the American Psychological Association 6<sup>th</sup> edition in accordance with the *Publication Manual of the American Psychological Association* (APA, 2009).

The following chapter, Chapter 2, contains the Literature Review. The literature is inclusive of scholarly articles, reputable books, industry reports, market analyses, Corporate 10-K forms, Industry Publications, and Government Publications. Finally, the data has been collected from research sites such as the FIT Library, Google Scholar, Microsoft Academic, Monster Meta-Search, Statista, the CIA World Factbook, and Yahoo Finance.

## Chapter 2: Literature Review

### Overview

#### **Background.**

The following chapter reviews industrial organization and transaction cost literature to generate the hypotheses to answer the research questions provided in Chapter 1. After the 2008 financial crisis, federal budgets have been put on restrictions, and a system was put in place called sequestration. Sequestration is the automatic decrease in mandatory spending, which includes defense spending (Keating, 2014). Such spending cuts have put pressure on the Government to enact acquisition reform within the Defense Industry to save money on a shrinking budget. These budgetary constraints could have unknown consequences for the Defense Industry. However, even in times of economic change, through innovation and adaptability, organizations can create value (Zott & Amit, 2012). Thus, for defense contractors, value can be created from organizations who find ways to adapt to acquisition reform by shifting their strategies to align with contractual changes of their customer. Therefore, examining how the Defense Industry has adapted to BBP can be beneficial in understanding how industry changes its strategy in environments of acquisition reform. The intent of Better Buying Power (BBP) is, “to do more with less” (Carter, 2010) or reduce production costs. Based on the intent of the program it appears that the Government’s implementation of BBP does not take into account the consequent transaction costs due to the fact that all of the

focus areas of BBP deal with program costs and does not take into account contract costs. The reason for this omission may be unintentional, on the Government's behalf, but warrants investigation as to how contract costs are impacted.

Understanding these cost impacts can lay the groundwork of future research as to if the tradeoff is beneficial to the Government. This provided an interesting context by which to examine the countervailing power bargaining strategies of the Defense Industry when dealing with a monopsonist.

The study's academic approach focused primarily on business disciplines but also considers political science interdisciplinary approaches based on Dunning (1989) plea for a multidisciplinary approach to research. Specifically, this study focuses on Government to business relations and the political/legal environment. To better illustrate the business process between the Defense Industry and the Government, Appendix B provides the contracting process between a company, specifically a defense contractor, and the U.S. Government. In addition, Appendix B provides a brief history of acquisition reform leading to BBP. The following section provides an explanation of how the Government defines BBP as well as its intended purpose.

### **Better Buying Power (BBP) Breakdown.**

According to the Department of Defense, BBP is centered on seven focus areas:

***Focus Area 1: Achieving Affordable Programs.***

According to Durante (2011), this focus area deals with conducting program management of cost-constrained programs with the goal of providing resources to the Department of Defense. These resources are inclusive of funding, schedule, and workforce. Affordability deals with cost control within contracts (Durante, 2011). To implement this focus area, the Government is attempting to enforce affordability caps. A focus on affordability for the Government is the essence of BBP, enforcing affordability caps can put increased risks on defense contractors and could reduce profitability since it puts pressure on defense contractors to lower costs, thus de-incentivize the Defense Industry.

***Focus Area 2: Control Costs throughout the Product Lifecycle.***

According to Kendall (2012), the purpose of this focus area is to anticipate and attempt to control future costs of a program's inception. To implement this focus area, the Government creates independent cost estimates to set a target cost goal that they will be held accountable for controlling when contracting with a defense contractor.

***Focus Area 3: Incentivize Productivity and Innovation in Industry and Government.***

According to Carter (2011), this focus area deals with rewarding defense contractors for successful supply chain management as well as indirect expense management. To accomplish this, the Government will award certain contract

types designed to give incentive fees to the contractor if they manage their supply chains to lower costs and maintain superior performance (Hagel, 2014).

***Focus Area 4: Eliminate Unproductive Processes and Bureaucracy.***

According to Kendall (2011), the primary purpose of this focus area is to remove any unnecessary or non-value-added processes or documentation that will slow down the acquisition process for both the Government and the Defense Industry. Such processes include extensive administration efforts for both the Government and defense contractors that would lower productivity.

***Focus Area 5: Promote Competition.***

According to Kendall (2014), this focus area is concerned with the reduction of barriers to entry and allowance of additional competitors to drive down costs through competition. This focus area also seeks to create opportunities for small businesses. Note that competition in this context, as well as throughout this paper, is defined as the incumbents within the Defense Industry that compete for market share. Thus, the promotion of increased competitors would increase this number of incumbents, and therefore the intent is to strengthen the Government's negotiation position by having more competition (Kendall, 2014).

***Focus Area 6: Improve Tradecraft in Acquisition of Services.***

According to the Defense Acquisition University (2012), this focus area deals with the improvement of tradecraft services for the purpose of reducing the costs of service contracting. To accomplish this, the U.S. Government intends to

improve requirements definitions to ensure that contracts are well understood and executed by the contractor. In addition, the Government seeks to improve contract management to ensure that the programs are well managed, costs are reduced, and that requirements are reviewed by the Government with its Contractor. In addition, this focus area seeks to increase market research and encourage small business participation.

***Focus Area 7: Improve the Professionalism of the Total Acquisition Workforce.***

According to Kendall (2013), the purpose of this focus area is to improve the educational background of the U.S. Government acquisition team. To accomplish this, the U.S. Government wants to ensure that each of its employees responsible for managing the acquisition of supplies and services have the proper certification, college education, and training. Also, this focus area seeks to recognize excellence and maintain a cost-conscious acquisition workforce. Thus, the intent of this focus area is to align Government acquisition employees with a goal of cutting costs and therefore, negotiations and contracting between defense contractors will be focused in this manner. The following section defines the difference between the usage of the terms ‘markets’ and ‘industries’ as it pertains to this study.

### **Markets versus Industries.**

While often used synonymously within much of the literature, the terms markets and industries are not synonymous and are defined distinctively. According to Steiner (1984), an industry is where companies participate and compete; in addition, a market is where customers or a group of customers participate to buy. Therefore, industries sell to markets and markets procure from industries.

In the case of defense and arms sales, the Defense Industry is the seller and therefore the industry, and the U.S. Government, Foreign Governments, State Governments, Local Governments, other defense contractors, and some commercial customers (both domestic and international) are the Arms Market. However, since sales of defense technology typically do not go through state and local governments, rather directly to the Federal Government, and since the sales of defense technology within the United States to foreign and commercial markets require approval by the U.S. Government, the Federal Government is the primary customer. Thus, the U.S. Government is a monopsony in that most sales from U.S. defense contractors is to the Government and the Government has control over the exports of defense technology (Kovacic & Smallwood, 1994). According to King and Driessnack (2007), the Defense Industry is an oligopoly and the Arms Manufacturing market's buyer, the Government, is a monopsony. A monopoly occurs when one company controls all or most of an industry, while a monopsony

occurs when one buyer controls all or most of the market (Depeyre & Dumez, 2009). The following section discusses the theoretical framework and supporting theories that lead to the hypotheses.

## **Theoretical Framework**

### **Industrial Organization.**

#### *Overview.*

The concept of industrial organization, sometimes called industrial economy, is concerned with the market power held by firms over markets in relation to the industry they participate in and the level of industry power held by buyers over industries in relation to the market they participate (Porter, 1981). Within industrial organization, there are two continuum that encompass the concept, the first being the market structure continuum and the other being the industry structure continuum (Mariti & Smiley, 1983). Market structure continuum is concerned with, in increasing power, perfect competition (Stigler, 1957), monopolistic competition (Blanchard, & Kiyotaki, 1987), oligopoly (Bresnahan, 1982), and monopoly (Pauly, 1998). The industry structure continuum is concerned with, in increasing power, fragmented buyers, buyers with bargaining power, oligopsony, and monopsony (Noll, 2004).

### ***Market Structure.***

#### *Overview.*

Market structures encompass the level of market share firms within an industry have, thus includes the level of competition and power of the sellers (Mariti & Smiley, 1983). In addition, this includes the level of competitor incumbent exit barriers and barriers to entry for new companies.

#### *Perfect Competition.*

The characteristics of perfect competition include: a large number of sellers in the industry (McNulty, 1967), homogeneous products/services, zero barriers to entry and exit, participants are price takers, and have zero transaction costs (Roberts, 1987). Because of a large amount of sellers and low barriers to entry, such industries are considered unattractive due to low-profit margins and low selling power (Porter, 1980).

#### *Monopolistic Competition.*

The characteristics of monopolistic competition are a somewhat large number of sellers in the industry (Krugman, 1979), low entry and exit barriers, and heterogeneous products/services (Roberts, 1987). Because of the large amount of sellers, firms have often very low selling power and are still somewhat of a price taker, though they have some aspects of price making (Roberts, 1987).

### *Oligopoly.*

The characteristics of oligopolies are few sellers in the industry, high entry and exit barriers, and heterogeneous products/services (Salop, 2004). Because of the few numbers of suppliers, oligopolies are often considered price makers (Sweezy, 1939), though often refrain from competing on price to avoid price wars (Salop, 2004). Such an industry is considered attractive due to low competition and high entry barriers (Porter, 1980). As mentioned above, the Defense Industry can be classified as an oligopoly due to few large sellers with significant market share (King & Driessnack, 2007), as well as based on the Herfindahl-Hirschman Index (Davis, 2006).

### *Monopoly.*

The characteristics of a monopoly include the ability to maximize profits through price making (Posner, 1975), high entry and exit barriers, and are a sole seller or seller with a significantly high market share (Caves, 1980). In such a case the firm is the industry and the industry is the firm (Caves, 1980).

### ***Industry Structure.***

#### *Overview.*

Industry structures encompass the level of industry share buyers within a market have which encompasses the level of buying power (OECD, 2008).

*Fragmented Buyer.*

The characteristics of fragmented buyers include no bargaining power and low entry and exit barriers. This is due to the high volume of competing buyers and thus leads to high options for the sellers (OECD, 2008).

*Buyers with Bargaining Power.*

The characteristics of buyers with bargaining power include some levels of bargaining power and low entry and exit barriers (OECD, 2008). This is due to the high volume of competing buyers, yet enough control over the market segment to have some negotiation capabilities; however, this power is limited due to high options for the sellers (Pauly, 1998).

*Oligopsony.*

The characteristics of oligopsonies include high levels of bargaining power (Azzam, 1995) and high entry and exit barriers (Bergman & Brännlund, 1995). This is due to the low volume of competing buyers (Chen & Lent, 1992), which grants the oligopsonist high bargaining power over the sellers (Bergman & Brännlund, 1995).

*Monopsony.*

As discussed in Chapter 1, this study focuses its attention on monopsonistic behavior, with the intent of exploring what trends are occurring in the form of countervailing power to mitigate the bargaining power of the Government. The Defense Industry is a unique industry in that its buyer is primarily the United States

Government. Sales outside the United States, both commercial and defense have to be approved by the United States Government and are subject to both export and import control laws. Because of the Government's position of being the largest buyer in sales, largest customer in the world (SBA, 2017), and its regulatory capability, the United States Government demonstrates monopsonistic behavior.

According to the Organization for Economic Co-Operation and Development (OECD) (2008), buyer power is how one party can affect the terms of trade within another. The OECD identifies buyers that have bargaining power; bargaining power deals with the strength a buyer has with its supplier(s) and focuses its discussion on buyers with monopsony power. Monopsony power in which a buyer is either the sole buyer or is a significant buyer that controls most of the demand. Therefore, in a monopsony type market, the buyer is the market and the market is the buyer. Due to the fact that buyer power is considered a force in Porter's Five Force model, the higher the power of buyers, the less attractive the industry (Porter, 1980). Thus, a monopsony type market would be the least attractive scenario as it pertains to this force. Therefore, examining the trends in the industry and analyzing how the industry can mitigate this buyer power can have managerial implications that could extend to industries beyond the Defense Industry.

A monopsonist has the ability to lower prices by simply purchasing less and less, just like how a monopolist has the ability to raise prices by producing less and

less (Gholz & Sapolsky, 2000). Thus, due to high buyer power, a monopsonist has greater control over the production, pricing, and relationships within the industry (Depeyre, & Dumez, 2010). However, procuring less and less can disincentive suppliers and potentially cause suppliers to exit the market, such a situation is not ideal for a monopsonist; thus, such an approach can only be utilized in the short-run. A monopsonist has control over demand in the same fashion that a monopolist has control over supply (Manning, 2003). Therefore, a monopsonist has direct control over how the industry invests in future products and services since the monopsonist controls demand. Therefore, since a monopsonist can influence demand through profit incentives, a monopsonist can influence the industry to invest in product and service development based on its stated need and buying behavior which could impact innovation. In the case of BBP, the Government claims it utilizes profit incentives for innovation and cost control (Kendall, 2016). However, these incentives are based on contract execution, thus are production cost focused, BBP does not provide incentives for cost control within the contracting process itself.

According to Wyld, Pugh, & Tyrrall (2012), a monopsonist can hold suppliers captive if they have high knowledge of the supplier's costs. Such is the case of Government contracting in which suppliers are legally required to certify cost or pricing data under the Truth In Negotiations Act (TINA), should such price exceed the threshold (Federal Acquisition Regulation, 2005). In the case of Wyld

et al. (2012), companies like Wal-Mart, for example, have significant market power that can be exploitive on suppliers. However, such suppliers do not have the specialized capabilities of defense contractors. Thus, the Defense Industry has more negotiation capabilities than Wal-Mart's suppliers, in that defense contractors are not as abundant and produce highly differentiated products, thus in some cases, defense contractors can benefit from monopolistic power in the specific product or services they serve within certain defense programs. In addition, companies like Wal-Mart have to focus on profit; thus, any savings in prices roll down to their bottom line. In contrast, the Government is cost driven and must abide by shrinking budgets, thus not focused on profits, but rather on budgets which are often dependent on political decisions. Therefore, its strategy and focus are concerned with cost-reduction, as opposed to the Defense Industry which is focused on profit maximization, thus unlike Walmart, the methods the Government employs will often not be in alignment with a profit motivated monopsonist.

Finally, the role of competition within the supply base can be both advantageous to the Government and detrimental. Too many suppliers lead to higher transaction costs of management. Too few suppliers lead to higher costs via monopoly power of sole source suppliers. Therefore, acquisition reform could be beneficial or detrimental to the Government if there is not an optimal amount of competition, such as 'dual sourcing' (Hunter, Sanders, McCormick, Cohen, & McQuade, 2015). Thus, competition levels could influence managing and

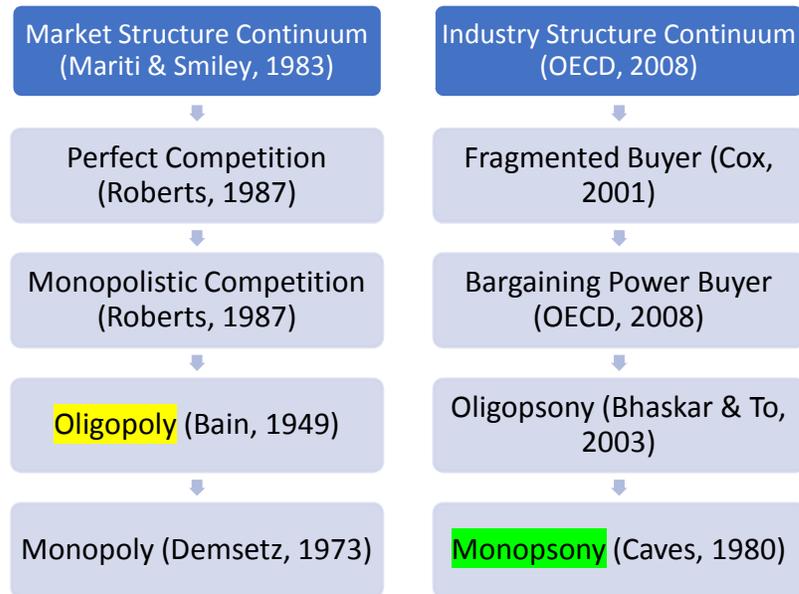
enforcement transaction costs and could impact existing relations with incumbent defense contractors. According to Li and Debo (2009), a buyer can benefit from having one supplier and creating and sustaining a long-term relationship with that source in which the buyer can create a streamlined process as well as understand the supplier's capabilities. However, a buyer can also benefit from short-term relationships by being able to have a choice amongst suppliers and potentially find a best-cost provider (Thomson, Strickland, & Gamble, 2009). Relationship building and switching time between suppliers as well as market research time can impact transaction costs in the form of bargaining or contract negotiations and thus perceived contractual costs as a whole. Thus, disruptions to this form of relationships could increase transaction costs in the form of uncertainty, which is a transaction cost (Rindfleisch & Heide, 1997). These increases in transaction costs could disincentive the Defense Industry to continue in these market segments should alternatives arise, such as Boeing that has its commercial segment (Boeing, 2016), and give incumbent defense contractors more monopolistic power, countering the goal of BBP.

*Industrial Organization Illustration.*

The below figure is an illustration of the Industrial Organization literature detailed above. In addition, it is important to note that while the "Market Structure" continuum can be found in much of the literature in Industrial Organization. As such, the Market Structure is a continuum of increasing industry

concentration from Perfect Competition at the lowest level to Monopoly at the highest level. However, the “Industry Structure” as a continuum is not present and was built directly for this study by piecing together different readings in the literature to mirror the “Market Structure” as a comparable complement. The literature does include “Oligopsony” as a mirror to “Oligopoly” and “Monopsony” as a mirror to “Monopoly,” but it does not have a counterpart for “Perfect Competition” and “Monopolistic Competition.” Therefore, the terms “Fragmented Buyer” and “Bargaining Power Buyer” are terms coined in this study as mirrored counterparts for “Perfect Competition” and “Monopolistic Competition” respectively. Thus, this continuum looks at Fragmented Buyer as the lowest level of the Industry Structure, and Monopsony as the highest level.

**Figure 1 Industrial Organization Spectrums**



**Legend:**

**Yellow:** Defense Industry (Based on the Herfindahl-Hirschman Index (Davis, 2006)

**Green:** Arms Market (USG) based on attributes of monopsonies (OECD, 2008).

Note: As the competition segment becomes more concentrated (i.e., the more powerful the buyer or seller) on either spectrum, transaction costs increase due to the need for contracts as well as increased ambiguity and more asymmetric information (Chamberlin, 1933). It is also important to note that within agency theory, asymmetrical information can lead to a conflict of interest amongst the parties (Ross, 1973). This is due to the fact that the Government serves as the principal and the contractor serves as the agent (Eisenhardt, 1989). Both may have

differing goals, the Government wants to meet mission needs, and the contractor is motivated by the shareholders demands (Hill & Jones, 1992). Thus, when examining impacts of BBP, it will be important to understand both perspectives, which this study examined in the Chapter 5 Discussions section. The next section discusses countervailing power as a means for mitigating monopsonistic power which is broken into two components, political influence (pluralism) and competitive collaboration (co-opetition). In addition, the next section provides supporting theories that assist the theoretical framework and research.

### **Relevant Models, Theories, and Concepts**

#### **Countervailing Power.**

##### *Overview.*

Countervailing power is the concept that a buyer or a group of buyers can extract bargaining power from suppliers by controlling the level of competition in their favor (Galbraith, 1954). Countervailing power can be accomplished by the selection of a group of suppliers to compete one off of the other (Ungern-Sternberg, 1996). The reverse case could apply to suppliers through collusion, the issue with collusion, however, is that anti-trust laws forbid collusion (OECD, 2008). However, anti-trust laws do not forbid suppliers seeking Government influence (pluralism), which in turn can mitigate buyer power, or collaborating (co-opetition) via joint-ventures, complementary products, or joint-diversification. Thus, these methods can serve as a form of countervailing power from the buyer by allowing

for competition to work more jointly in a fashion that does not violate anti-trust laws (Blair & Harrison, 1990). Thus, this study is concerned with looking at countervailing power in two different forms, Co-opetition (Brandenburger and Malebuff 1998) and Pluralism (Connolly, 1995).

### ***Co-Opetition.***

In the case of monopolies, countervailing power can exist when buyers collaborate to influence the monopolist to provide lower prices or better terms in a contract (OECD, 2008). According to Brandenburger and Malebuff (1998), competitors can benefit from collaboration to the extent possible that they do not violate anti-trust laws, the concept called cooperative competition or co-opetition. Co-opetition is the concept that competitors can collaborate to obtain common success (Dagnino & Padula, 2002). For example, complementary products, joint-ventures, teaming agreements, and trade associations are all forms of competitive collaboration. Thus, co-opetition is a form of countervailing power that can allow firms to reduce monopsonistic buyer power, similar to how collaborating buyers can reduce monopolistic supplier power.

Porter (1985) argued that competition can be beneficial to industry incumbents due to mutually-beneficial purposes. Porter (1985) argued that competitors can limit buyer price sensitivity by creating a standard selling approach, can create and maintain entry barriers, and can create barriers to foreign competitors, which occurs within the U.S. Defense Industry. In addition, Porter

(1985) argued that competitors, as a collective, can influence regulators and even reduce risks of anti-trust violations due to the presence of viable competition.

Note: For the sake of Hypothesis 1, discussed below, and throughout the study, “collaboration” is defined as competitors consolidating to do the following:

- Influence Government Decision Making (Pluralism, see next section)
- Utilization of teaming agreements
- Joint-ventures
- Complementary products and services utilized on the same Government programs, such as the F-35 Program, which has components from major competitors, such as BAE and Northrop Grumman, yet Lockheed Martin is the Prime Contractor (Lockheed Martin, 2018).
- Active participation within trade associations such as NDIA, AIA, IACCM, and NCMA.

***Pluralism.***

According to Connolly (1995), Pluralism is the political theory that argues political decision-making stems from the Government. As mentioned, in this study, pluralism is being looked at as a form of countervailing power that firms utilize to influence the Government primarily through lobbying (Snyder, 1996). While lobbying is not unique in that it seeks to influence Government regulation

and decision making, it presents a unique situation in that in this case, the Government being lobbied is also the customer, and this customer is a monopsonist. Thus, pluralistic influence is a major component of buyer power influence.

According to McCool (1995), there are three types of pluralism. The first type is what is identified as laissez-faire pluralism; this type argues that the political system is not run by a centralized group, instead, an open and competitive environment where anyone or any group can influence the political system. The second type, called corporate pluralism, is the concept that interest groups have direct influence and control within political decisions, an example being corporate lobbying and trade association lobbying (McCool, 1995). Thus, the primary focus of, though not limited to, corporate pluralism is lobbying for influence by interest groups when a government allows for democratic participation and campaign influence (Theodoulou & Cahn, 1995). Finally, public pluralism is based on the notion that like laissez-faire pluralism, there is an open and competitive environment for political influence; however, it argues that such competition may break down and may require mediation by public officials. In this study, this research focused on corporate pluralism because this form of pluralism relates to how a company or an industry can influence a government that is a monopsonistic buyer. Therefore, any further references to pluralism refer to this type due to the

scope of the study in reaching out to industry trade associations (see methods section on sampling).

According to Hisrich, Peters, Manimala, and Shepherd (2012), political decisions can have a direct impact on industry and business development. In order for enterprises and industries to survive, Drutman (2010) stated that lobbying is a necessity as it can drive Government decision making in the organization's favor, or in this case an industry's favor. Lobbying can also be looked at as a necessity within a company's strategy since Government decisions can impact the economic performance of firms and commerce (Daniels, Radebaugh, and Sullivan, 2014). Drope and Hansen (2009) argued that lobbying as a trade association for common goals across the industry can be more successful than individual company lobbying efforts. Thus, lobbying as a collective is one form of countervailing power that companies can utilize to influence a government monopsonist (Etgar, 1976).

Since the basis of pluralism is that political decisions are made by the Government, collaboration can be a resource that companies and industries can use that allows them to counter monopsonistic behavior. According to Lord (2000), corporations should have a strategy for dealing with external politics and influencing legislatures. Pluralism can shape how future contractual relations are conducted from Government to industry due to the fact that Government regulations can have an influence on contract types and pricing policies, in addition, the political environment can shape the focus on specific defense

programs. Since the political environment can influence acquisition reform, this can influence what programs the Government funds, thus influence defense contractors to change their investments on different programs in response to the Government's shifting focus. How acquisition reform is influencing contractual relations could shape the Defense Industry's strategy as a response to these changes. Thus, to have an influence on monopsonistic power, pluralism is a necessity for the industry.

Consequently, it is essential to understand if monopsonistic behavior, through acquisition reform, has led to defense contractors collaborating to influence contractual regulations and their negotiation position with the Government. Therefore, focusing on BBP is relevant to the Defense Industry and the U.S. Government (NDIA, 2014). In addition, investigating BBP allowed for a better understanding of monopsonistic influence of Government and the Defense Industry's reaction. This reaction is expected to take the form of collaboration strategies.

***Hypothesis 1: As a result of BBP, defense contractors will demonstrate perceived increases in competitive collaboration with each other in order to circumvent monopsonistic buyer power of the government.***

### **Implications of H1.**

If Hypothesis 1 is supported and there is a perceived increase in competitive collaboration, then it would appear that acquisition reform has encouraged defense contractors to increase collaboration. While this does not determine that BBP is the cause of competitive collaboration, trending increases could imply a relationship. This could warrant further research to indicate that competitors are collaborating as a way to mitigate monopsonistic power.

If Hypothesis 1 is not supported, this can still have practical implications for the Government and the Defense Industry. This could indicate that while acquisition reform (BBP) has not had an impact on competitive collaboration as of yet, there may be an advantage to do so. In addition, if it appears there is a decrease in competitive collaboration, this can raise additional questions as to how or if BBP is reducing competitive collaboration. In any case, some change in collaboration may be warranted.

Overall, the implications (both practical and academic) of understanding collaboration could translate to other industries. The idea behind competitive collaboration is to create a form of countervailing power. While countervailing power cannot eliminate monopsonistic power, it could potentially reduce or at least influence this level of control.

The next section goes over transaction costs and how acquisition reform could be impacting these costs within the Government contracting process. This section discusses the different types of contractual arrangements.

### **Transaction Cost Economics.**

According to a Meiners, Ringleb, and Edwards (2015), a contract arises when two or more parties come to a legally binding agreement that includes an offer that is made, acceptance of that offer, and consideration. Williamson (1979) laid out three different contracting methods. First, he discussed Classical Contract Law; this form of contracting's sole purpose is the facilitation of exchange. Classical Contract Law, however, focuses on discreteness. The idea is that the other party should not be considered in this contracting method; in fact, input from a third party is discouraged. Neoclassical Contract Law is more appropriate for long-term contracts under uncertainty, in such a case, third-party participation in the form of an arbitrator is encouraged due to their ability to act quickly and impartially. Relational Contracting focuses on relations between both contracting parties as opposed to just contract terms, conditions, and scope. Such form of contracting is gaining more traction and is common within the Defense Industry. Therefore, acquisition reform could impact these relations in its attempt to increase buying power.

According to Korobkin (1998), consistent contractual terms and conditions that remain similar from one contract to the next are preferable to both parties; this

is called contract inertia. Contract inertia is due to the fact that there are increased transaction costs when attempting to make changes to the already uniform flow. Contract inertia is preferable to both parties because it creates a consistent form of contracting that can be replicated and reduces uncertainty (a transaction cost). Therefore, if acquisition reform, such as BBP, disrupts this level of consistency, this could create a new level of uncertainty for how defense contractors need to operate (Schwartz, 2010). Also, this could impact how firms are currently aligned to meet the current contracting process, thus requiring firms to invest time and money to learn a new process.

As discussed, transaction costs are the costs of doing business. According to Dahlman (1979), transaction costs can be broken into three categories: search and information costs, the cost of negotiations, and the cost of managing and enforcing. Search and information costs are the cost of researching the market for the lowest price and the best overall product or service. Bargaining Costs, also known as negotiation costs, is the cost of reaching an agreement through contracting and bartering. Managing and enforcing costs is the cost of ensuring compliance with the other party within the contract. The Defense Industry and the Government face all of these forms of costs. For example, the Government has to conduct market research prior to selecting a contractor, this is a form of search and information cost, and the contractor has to search which market segment it wishes to pursue. Both the Government and defense contractors engage in negotiations;

this is a form of bargaining costs. Finally, the Government has to also manage the contractor. This can also increase costs to the Government the more contractors they have to manage, in addition, this can increase transaction costs to the defense contractor to have to comply with oversight and in turn flow down contract management to its suppliers. Thus, if this is the case, BBP can have a negative impact on cost reduction for the Government if the savings in production costs do not exceed the contracting costs, which could increase or decrease as a result of BBP and therefore countering the purpose of the program.

The concept of transaction cost economics originated with Coase (1937) in his paper *The Nature of the Firm*. In his seminal work, Coase (1937) argued that transaction costs were more than merely paying for the good or service, but included search and information costs, the cost of bargaining, the cost of maintaining intellectual property, and costs of policing and enforcement. However, transaction cost concepts can be dated back to Commons's (1931), where he argued that the basis of economics is the idea of transactions, a means of exchange between one party over the other party is the basic unit of economic analysis. While Coase (1937) did not officially coin the term "transaction cost" in his work, Williamson (1981) is credited with coining and popularizing the term in which he argues that transaction costs deal with the costs of doing business between firms and markets, as well as internal transactions such as employee relations. Because uncertainty can be a transaction cost, Rindfleisch and Heide (1997) argued that

based on the literature, organizations reduce transaction costs with their buyers by establishing relationships of mutual interdependence. Thus, this is why the Government seeks supplier pricing data, to reduce uncertainty and therefore lower this form of transaction cost.

Looking at acquisition reform (BBP), it is important to investigate in what ways are transaction costs impacted under this initiative. While it is the intent of the Government to improve cost reduction, it is important to investigate how the industry reacts. If the industry is impacted in a negative way, such as increases in both time and effort within the contracting process, this could counter the whole goal of acquisition reform in the first place, since these expenses will impact the Government directly in the form of increased transaction costs.

According to Alexander (1992), there are unique transaction costs to the Defense Industry because products and services are often co-created between buyers and sellers. It is not uncommon for a weapon system to be developed by the integration of private companies and the government. Such integration has transaction costs associated with it. In addition, export and import controls, as well as security clearances for defense contractors to work on such systems can be costly to both the Government and the contractor.

According to Deutch (2001), the Department of Defense supported the mergers and acquisitions of major defense contractors in order to consolidate the defense industry and reduce the number of defense contractors to lower the cost of

managing suppliers. However, the Government has since abandoned this approach to reduce supplier power. Since the Government is able to control mergers through anti-trust laws, countervailing power can be more challenging for suppliers as opposed to fragmented buyers. Therefore, as mentioned, defense contractors intending to collaborate have to steer clear of antitrust or perceived antitrust violations. Thus, complementary products, teaming agreements, and joint diversification can allow for collaboration with lower risk of anti-trust violations (Brandenburger & Malebuff, 1998). Therefore, complementary products, teaming agreements, and joint diversification can serve as a form of competitive collaboration that can mitigate buyer power.

However, it should be noted that the Government could counter these tactics by encouraging competition, according to Lyon (2006), the utilization of dual sourcing can be beneficial to the Government as it reduces costs by allowing for competition. However, dual sourcing can only be beneficial after the utilization of a sole source incumbent who charges a high price and has delivered defective products. The utilization of a dual source puts pressure on the incumbent through competition. However, Lyon (2006) also notes that increasing competition on advanced technology that requires heavy R&D expenditures can de-incentive a contractor to incur such risk, thus hampering innovation (Steinbock, 2014). Therefore, a sole source supplier, may be more incentivized or face future competition, and thus may be more applicable for new specialized technologies that

the Government may be pursuing to meet its military strategy. As mentioned, a sole source supplier could reduce management and enforcement costs since the Government only would have to manage one supplier. Overall, impacts to transaction costs are of concern to both the Government and the defense industry. Reducing transaction costs is beneficial to both sides and can create a more streamlined contracting process, which can reduce costs and get needed products and services sold to meet Government demand.

**Hypothesis 2: As a result of BBP, defense contractors will perceive increases in costs and timeliness within the U.S. Government contracting process.**

#### **Implications of H2.**

If Hypothesis 2 is supported, then it would appear that monopsonistic influence, through acquisition reform, is able to have an impact on costs within the contracting process for the Defense Industry. If costs have increased, for either party, then this can be indicative of potential harm. The increases may be one-sided, in that the Government may experience increased costs, or the Defense Industry is experiencing increased costs. If either or both is the case, then both parties can benefit from this study in that it can shed light on the harmful effects of BBP and could set the stage for further research which can extend to either repeated

studies within the Defense Industry or other industries with monopsonistic buyers influencing their acquisition process. Thus, this can assist the Government and the Defense Industry in strategy development or further reforms if further studies warrant it.

If Hypothesis 2 is not supported, this too can still have practical implications for the Government and the Defense Industry. This can be indicative that BBP has had no significant effect on contracting costs. Thus, this can indicate the possibility that the program has not been effective in changing the contracting process, which may warrant a change needed in the program. Alternatively, if costs have decreased for the Government/Defense Industry, then this can have practical implications as well. This, in turn, would indicate the possibility that BBP has been beneficial and could warrant further reforms to capitalize on its potential success or even create plans to replicate the process in other monopsonistic markets. The following section synthesizes the concepts discussed and outlines the remainder of the study.

### **Synthesis**

Typically, acquisition reform has been a cost-focused concept, brought on by political pressures (Hanks, Axelband, Lindsay, Malik, & Steele, 2005). Cancian (1995), from the Office of the Undersecretary of Defense, argued that political pressures are often what drive acquisition reform. Thus, countervailing power in the form of pluralism is critical for having an influence on future reforms. Cancian

(1995) argued that, like other industries, the Defense Industry's goal is to make a profit, in contrast to other industries; the Defense Industry has significantly more oversight and is subject to increased amounts of auditors, inspectors, and contracting officers managing the industry. Linking to transaction costs, such oversight has a significant impact on governing the contracting process. Based on Williamson (1979), relational contracting applies significantly to the Defense Industry; thus, such relations can be impacted by programs such as BBP. According to Ng, Maull, and Yip (2009), contracting types within the Defense Industry has been steadily moving to performance-based contracts.

Performance-based contracts are consistent with one of the goals of BBP in that it seeks to award contractors for successful outcomes within program execution, however; such a shift can impact the Government contracting process between the U.S. Government and the defense contractor. If this contract flow is impacted, it could have an impact on the contracting costs due to the changing arrangement.

Looking at Porter (1980), the Government as a Buyer has a lot of power over the Defense Industry utilizing its regulatory capabilities and even unilateral contracting capabilities. An example of such a unilateral capability is the case of the F-35 Joint Strike Fighter program, where the Government was able to bypass negotiations and enforce a unilateral contract mod reducing the price of the contract by millions (Erwin, 2016). Grundman (2010) argued that while the U.S.

Government has a monopsony over the Defense Industry, and while it may be wise from the Government's perspective to want to enhance its buyer power even more, such changes can cause burdens on defense contractors that could inadvertently affect innovation. Such a burden, Grundman (2010) called "the Monopsonist's Dilemma," this dilemma is caused by encroachment of profits through risky fixed-price incentive contracts for defense contractors. Such encroachment on profits and demands for lower costs could de-incentivize defense contractors and thus reduce their incentive to invest in research and development.

***Hypothesis 3: BBP's implementation has resulted in stagnant or decreases in innovation in the long run within the Defense Industry.***

### **Implications of H3.**

If Hypothesis 3 is supported, then this could indicate that BBP has led to stagnant innovation or possibly hindering innovation and in the long run, it can be expected that defense contractors spend less in Research and Development, which could harm defense technology development. If this is the case, this would go contrary to the current National Defense Strategy (Unclassified Version) of the United States which one of its main focus items is to maintain American technological innovation in both the public and private sectors (Mattis, 2018). According to the National Security Strategy (Unclassified Version) of the United

States, one of the main goals of maintaining national security is to be the lead in research, technology, and innovation (Trump, 2017). Finally, the National Military Strategy (Unclassified Version) of the United States argues that its greatest competitive advantage is innovation and fostering this innovation is a top priority. Therefore, it is in the Government's best interest to create an acquisition process that does not hinder innovation (Inboden, 2016), rather foster innovation (DoD, 2017).

Alternatively, if Hypothesis 3 is not supported, this could indicate that BBP has led to a trend of innovation increasing. Perceived increases in innovation could mean BBP may have been successful in incentivizing the defense industry to innovate.

### **Final Thoughts.**

As a form of mitigation for uncertainty in acquisition reform, defense contractors have employed redeployment strategies as a way of capitalizing on their resources when needed (Anand, 2004). A redeployment strategy is the process a firm, in this case, a defense contractor, takes in realigning its resources after a period of spending cuts by the United States Government. Anand (2004) states that a redeployment strategy is often referred to as a 'conversion' in the defense context. Thus, conversion is when a defense contractor converts its resources to commercial purposes and chases commercial market opportunities. Diversification based on leveraging the assets of the firm in entering into a new industry is one form of

conversion” (Anand, 2004, p. 389). According to Anand & Singh (1997), a redeployment strategy is a method defense contractors can utilize during budget cuts in times when the Defense Industry is in decline. Redeployment occurs first after the Government cuts defense spending, which forces defense contractors to mothball their products and services. Once defense spending increases or international and even commercial opportunities come forward, the defense contractor will redeploy their products and services and attempt to sell to a commercial market as a way to diversify and reduce dependency on defense sales (Bellais & Guichard, 2006). Defense contractors can also utilize dual-use technology (Molas-Gallart, 1997). Dual-use technology is technology that has both civilian and defense applications, which allows defense contractors the flexibility to switch between commercial and defense markets in response to acquisition reform (Brandt, 1994). Therefore, reducing this dependency can be a form of mitigation of monopsonistic power.

***Hypothesis 4: Acquisition reform (BBP) could influence industry incumbents to either exit the market or enter into commercial type markets as a means of mitigating buyer power and diversifying their revenue streams.***

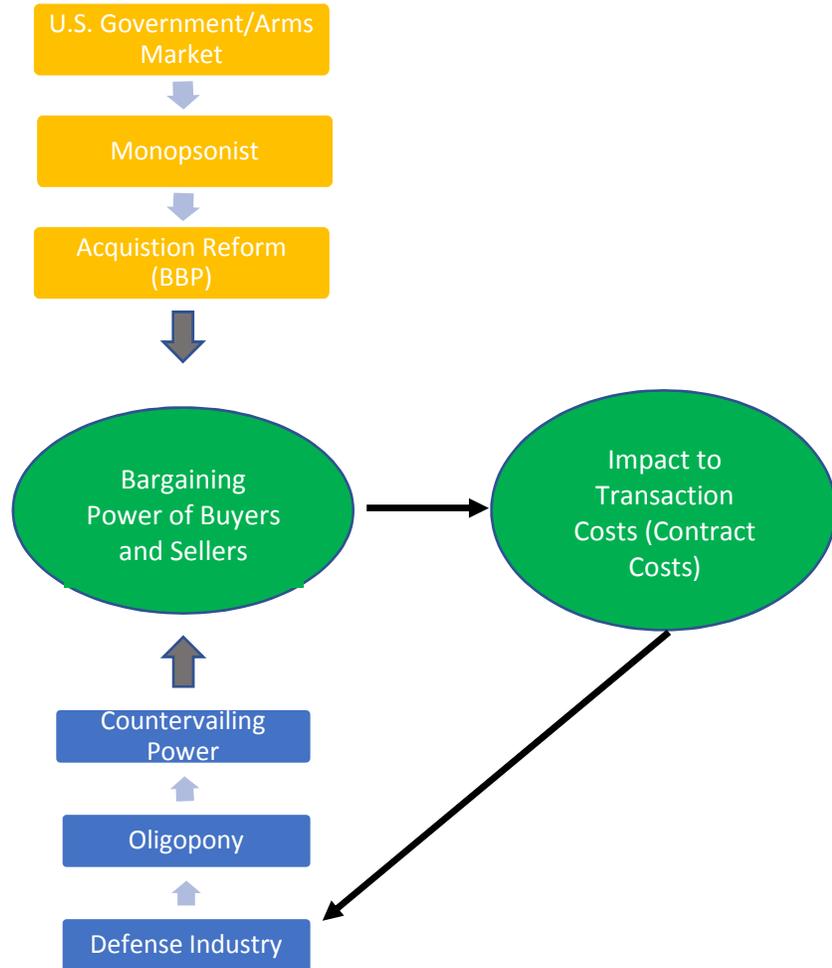
#### **Implications of H4.**

If Hypothesis 4 is supported, then this could indicate that BBP has created a trend in defense contractors diversifying their products and services as a means for reducing risk. If Hypothesis 4 is not supported, then this could indicate that BBP has had no effect on market exit or commercial entry.

Should defense contractors exit the market, this could decrease competition and thus increase transaction costs for the Government due to increased monopolistic power. Looking at Pluralism alongside transaction costs, North (1990) argued that there are “Political Transaction Costs.” These are the costs of shaping public policy, political decisions, and even government regulations. In the case of the Defense Industry, if the industry decided it was necessary to make a push for amendments to BBP, such political influence would be costly. Thus, the industry would have to do a cost-benefit analysis to determine long-term impact. Therefore, this study added to the industrial organization literature by looking into how monopsonistic behavior, through acquisition reform, influences contractual expenditures and how defense contractors are collaborating to strengthen their position. If defense contractors are engaging in competitive collaboration (co-opetition), it is important to note in what ways or if defense contractors are collaborating, and how this collaboration has influenced the Government. These methods by the industry are further detailed in Chapters 4 and 5.

Below is an illustration of the links between the key theories and concepts utilized in this study. Bargaining power is the medium of influence in that BBP intends to enhance the U.S. Government position contractually (Carter, 2010) and countervailing power (Galbraith, 1954) is a means of circumventing this position due to its impacts on transaction costs:

**Figure 2 IO Theoretical Matrix**



Legend:

**Green:** Medium of Influence

**Orange:** Government Influence

**Blue:** Industry Response

Overall, the above figure is a framework designed to show the position of both parties, the Defense Industry being an oligopoly and the Arms Market (U.S. Government) being a monopsony. The Government employs acquisition reform

(BBP in this case) to enhance its bargaining position and the Defense Industry utilizes countervailing power to enhance its bargaining position.

The following chapter lays out the methodology utilized with the intent of analyzing how BBP impacts contracting expenditures and competitive collaboration between defense contractors via a survey study from the NCMA and the NDIA associations. All of the hypotheses are broken down and explained in detail in Chapter 3 as to how the study was conducted in order to find support for these conjectures.

## **Chapter 3 Methodology**

### **Research Design**

#### **Quantitative Descriptive Statistics.**

The study employed exploratory research (Ghauri and Grønhaug, 2005), in the form of a survey analysis via exploratory and descriptive statistics design methodology (Render, Stair, Hanna, & Hale, 2015). The intent to utilize descriptive statistics is to examine the effects of Better Buying Power (BBP) and its relation to its impacts to the industry in four measures: Competitive Collaboration, Contract Costs, Innovation, and Commercial Diversification.

#### **Qualitative Grounded Theory.**

While the study used primarily quantitative descriptive statistics, it also used a qualitative grounded theory method by coding open-ended responses, in order to examine common themes as well as other findings of importance that were not being directly measured in order to influence the development of the supplier portion of countervailing power as a framework provided in Chapter 5.

#### **Mixed Methods.**

Thus, this study employs a mixed methodology. According to Johnson (2001), descriptive statistics is a form of non-experimental research. This means that causality can only be implied through theory or logic, when considering the relationship between BBP (independent variable) and expenses in the contracting process (dependent variable) as well as industry response, in the form of

countervailing power (dependent variable) (Chen, 2003) by the Defense Industry, perceived innovation (dependent variable), and commercial diversification (dependent variable). Therefore, the quantitative portion and the qualitative portion can complement one another by examining specific findings, while leaving room for other findings through the coding process discussed below.

### **Mixed Methods Concurrent Triangulation.**

Since both the quantitative portion and qualitative portion were done in parallel and analyzed separately with both the findings discussed in Chapter 4 and cross-analyzed in Chapter 5, this study utilized a concurrent triangulation approach (Creswell & Clark, 2017). Such an approach uses quantitative and qualitative methods independently during the study and then examines both findings to compare data after the data collection is complete.

### **Sampling Design.**

A representative sample was obtained from the following two trade associations: the NCMA and the NDIA. These associations represent both defense contracting and the Defense Industry as a whole. In addition, these associations serve as the voices of the industry to the Government and vice-versa, in that they seek Government influence (as per pluralism) and have an extensive background in contracting and defense research. Thus, surveys with these representatives allowed this study to gain insight as to how perceived contractual costs are being affected by acquisition reform, as well as how the industry is responding.

### **Exploratory and Action Research Design.**

Survey questions focused on how perceived contracting costs and the industry's response to these reforms are affected. The surveys relied on the experiences that acquisition and contracts professionals have had with acquisition reform and BBP to investigate the impact to perceived contractual costs and how the Defense Industry is collaborating in response to these reforms. Therefore, looking at acquisition reform from a contractual cost standpoint, in addition to examining the industry's response to these reforms allowed the study to examine impacts to perceived transaction costs. The findings assisted in providing guidance to strategy development for the Defense Industry and the Government and the interpretation from the data assisted in providing a framework by which to apply these findings to other industries that have a monopsonistic buyer. This framework is provided in Chapter 5.

Finally, this study employed an action research approach when utilizing the results of the survey study. According to James, Slater, and Bucknam (2012), action research is a type of research approach that utilizes data gathering in order to find solutions from the results. Krathwohl and Smith (2004) argued that action research is a type of research approach that intends to create some level of impact that has practical implications. Therefore, this study examined the managerial implications in conjunction with the theoretical contributions, to assist in strategy development for firms in monopsonistic market type scenarios. The purpose of

employing action research is to focus on what Bensimon, Polkinghorne, Bauman, and Vallejo (2004) argued for closing the gap between theory and practice. Therefore, in addition to adding to the literature, this study also provided managerial implications.

### **Organization of the Remainder of this Chapter**

The remainder of this chapter is as follows. The following sections discuss the population and sample sizes, how the participants have been selected, types of instruments used for the study, procedures for the study, and how the data has been collected. These sections go over the variables and tools utilized for the study. The following section discusses how the data was analyzed for the findings that resulted from this study. The next section discusses the ethical considerations of the research taking into account the requirements of approval by the Institutional Review Board (IRB). The following section then discusses the Researcher's personality; this section goes over the background of the Principal Researcher. The final sections of Chapter 3 discuss the validity and trustworthiness of the study as well as the limitations and front-end summary.

### **Population and Sample**

As mentioned, the samples have been pulled from two associations that include surveys from the NDIA and the NCMA. The total collective population of the two associations that are members, focusing on Defense Industry and Government contracting issues, is 45,000 members. These members are inclusive

of defense contractor professionals and Government employees. Utilizing a sample size calculation from SurveyMonkey.com, with a population of 45,000, a confidence interval of 95 percent, and a margin of error of 10 percent, the recommended sample size is 96 participants.

Also, according to Ghauri and Grønhaug (2005), the below formula was used to assist in determining the sample size:

$$\text{Necessary Sample} = \frac{(Z\text{-score})^2 * StdDev * (1 - StdDev)}{(Margin\ of\ error)^2}$$

$$96.04 = \frac{(1.96)^2 * 0.5 * (1 - 0.5)}{(0.10)^2}$$

In addition, according to Smith and Albaum (2005), with any population size, a reliability measure of 95 percent, a Z-value of 1.96, a Standard Deviation of 0.5 (as a default), and a precision of plus or minus 10 percent, the sample size should be 96.

Therefore, this study reached out and extracted responses with the intent of reaching out to a minimum of 96 survey respondents. Note, that there was a total of 97 actual respondents in this study.

Appendix C provides profiles of the population and sample breakdowns of the Defense Industry, the Arms Manufacturing Market, and the three major defense contractors that are representative of the Defense Industry based on high market

shares (Lockheed Martin, Boeing, and Northrop Grumman). Appendix C is intended to be used as a reference point and to be used to show the position of the Arms Market and the Defense Industry as well as background information that was extracted when the proposal portion of this study commenced, which was in 2015.

The NDIA and the NCMA were selected because they are representative of the Defense Industry and the Arms Market (NDIA, 2017) as well as Government contracting as a whole, (NCMA, 2015). These associations were also selected because they have knowledge of the acquisition process as well as acquisition reform, and because of their role as trade associations that provide top-level representation of the Defense Industry and Government acquisition professionals. Because of these factors, these associations would be able to provide much insight as to how monopsonistic behavior impacts the industry. Survey respondents were selected from representatives of the two mentioned associations that have experience in government contracting and Defense Industry experience. The intent was to reach out to representatives from the Government and the Defense Industry who have had experience within the contracting proposal and negotiation process.

In a proposal process, this typically includes functions such as Program Management, Contracts, Finance, and Procurement. The purpose of selecting representatives who have had some experience in one of these fields is because they have direct interaction between the end users in the acquisition process and thus were familiar with acquisition reform's impacts, negotiations, and contracting.

Since typically contracts are negotiated as a team effort, it was essential to investigate how BBP has influenced Government contracting costs and its effect on industry strategy.

## **Measured Variables and Data Analysis**

### **Variables.**

#### ***Independent Variable.***

BBP is the independent variable due to the fact that as one of the latest series in acquisition reform, it is intended to cause change.

#### ***Dependent Variables.***

Perceived increases in competitive collaboration is the first dependent variable based on the anticipated increases from Hypothesis 1. Perceived contract costs is the second dependent variable because it is anticipated to rise as a result of BBP and thus change based on Hypothesis 2. These costs are perceived because since contract cost data increase is often considered proprietary by defense contractors, obtaining actual cost data would not be feasible. Therefore, perceptions of cost changes were gathered from the survey data from representatives from NCMA and NDIA based on their experiences.

Perceived decreases in innovation is the third dependent variable in support of Hypothesis 3. Finally, perceived increases in commercial diversification is the fourth dependent variable in support of Hypothesis 4. Note that the dependent variables were measured via separate measured outcomes based on (Render, Stair,

Hanna, & Hale, 2015) and (Ghauri and Grønhaug, 2005) comparing before and after BBP's implementation by analyzing the means. The analysis utilized four separate T-Tests to determine if there is support for the Hypotheses.

### **Procedures**

Instruments utilized were to facilitate the survey analysis. SurveyMonkey served as the data collection instrument. The purpose of this site is to assist in survey generation and collection of raw data. SPSS analyzed the quantitative portion of the study by analyzing the raw data from the closed-ended responses via T-Tests and then the descriptive statistics were laid out and discussed. The qualitative portion of the study was conducted from the open-ended responses using a grounded theory method based on Bernard and Ryan (2010) qualitative process by doing the following: Coding the data, gathering the coded responses into concepts, categorizing those concepts, and then laying out the key themes to assist in furthering the IO theory. In addition to manual coding, NVivo was also utilized to code only the open-ended question responses within the survey. NVivo was able to assist in identifying patterns to these question responses and provided an organized coding process that assisted in the research findings as support information by examining the themes present.

Below is a list of the selection and exclusion criteria for the surveys. The intent of these choices was to reach out to only a U.S. based population that had experience with acquisition reform in order to focus the study.

### **Selection criteria.**

Surveys were open to the individuals who meet the following criteria:

- Currently or previously a U.S. Defense Industry or U.S. Government employee
- A member of the defense acquisition process (i.e., Contracts, Procurement, Finance, and Program Management)
- A member of NCMA/NDIA
- Familiar with BBP and Acquisition Reform (Definitions of both were provided in the survey)

### **Exclusion Criteria.**

- Employee of a Foreign Government or an employee of a Non-U.S. defense contractor regardless of employee citizenship
- Employee of a commercial (non-defense contractor) regardless if it is domestic or international and regardless of citizenship
- Not a member of NCMA/NDIA

### **Protocol.**

- Survey requests were released to NCMA and NDIA charter leader distributions, with a snowball sampling method of having the charter leaders reach out to their charter members due to the fact that the Principal Researcher did not have direct access to these individuals.

- Surveys included 29 items in a Likert-type format as well as open-ended items (16 Likert-type items (Scale of 1 to 7) and 4 open-ended items). In addition, there were 9 pre-screen questions.
- Question 1 of the survey was the consent authorization and question 2 was the inclusion criteria confirmation. If a respondent responded “No” to either or both of these questions, they were not included in the study and the SurveyMonkey system automatically moved them to the disqualification page.
- Definitions of BBP and acquisition reform, as well as the purpose of the study, were provided before the questions
- Information on sensitive information was provided (see Ethical Considerations section below for more details)

All items were required to be answered, SurveyMonkey had controls in place that allows for requiring to answer a question in order to proceed. These controls were included in the open-ended questions as well.

#### **Measured Outcomes.**

Items 11 through 14 of the survey assisted in investigating Hypothesis 1 and items 15 through 19 of the survey assisted in investigating Hypothesis 2. In addition, items 20 through 24 assisted in investigating Hypothesis 3 and items 25 through 29 assisted in investigating Hypothesis 4.

Note that Appendix D provides a layout of the perceptions of the respondents in the form of recurring themes.

### **Open-Ended Questions for both Perceived Contractual Costs and Perceived Competitive Collaboration.**

For the open-ended questions, these responses were coded via the Nvivo software to look for patterns in responses and recurring themes. While there was no way to predict the participant's response to these questions, below are some of the key themes that this study examined. The data findings have been included in the Chapter 4 (Findings).

#### **Perceived Themes by Hypothesis prior to Data Collection**

- Increased costs (H1)
- Price Impact (H1)
- Profitability (H1)
- Federal Budget (H1)
- Bureaucracy (H1)
- Influence (H2)
- Political Landscape or Government Relations (H2)
- Collaboration (H2)
- Mergers (H2)
- Relations or Relationship (H2)
- Innovation (H3)

- Divestment or Exit (H4)

The above themes contain items that were proposed as potential findings prior to data collection. Chapter 4 contains the updated themes by Hypothesis based on the actual data collected.

Note: Appendix E contains the survey questions.

### **Ethical Considerations**

Due to the sensitivity of the nature of the work conducted within the Defense Industry, specific parameters were taken into account. Survey participants were instructed not to divulge proprietary, classified, foreign government classified, export/import-controlled, and competition sensitive, personal, or otherwise sensitive information. The survey participant's identities remain anonymous. This information was provided in the survey instructions prior to beginning the questions. After the surveys were completed, if it were determined that sensitive information was inadvertently released, this information would have been redacted from the documentation; however, this did not occur. These instructions were provided in the survey instructions.

In addition, training from the Collaborative Institutional Training Initiative (CITI) in the form of courses that include Conflicts of Interest, Humanities Responsible Conduct of Research, Social & Behavioral Research, and Social and Behavioral Responsible Conduct of Research were completed to prepare the Principal Researcher to conduct ethical and responsible research on human

subjects. Finally, research was only conducted after receiving proposal approval by the FIT committee and after receiving approval by the Institutional Review Board (IRB) to conduct the study.

### **Researcher Positionality**

The Principal Researcher of this study is also currently a Contracts Professional at Lockheed Martin, thus a part of the proposal process and proposal teams. As a Contracts Negotiator for the largest defense contractor in the world, the Principle Researcher can relate to the study having worked in the field. Because of this background, the Researcher has had direct experiences with U.S. Government acquisition reform, BBP, and how negotiations and sales have been affected by these initiatives. During the Researcher's tenure at Lockheed Martin, sequestration, acquisition reform, and BBP has been significant topics and concerns influencing the decision-making process of both the Researcher, the company, and the industry as a whole. These experiences have both assisted in generating the research questions as well as refining the research questions.

While the Researcher was not directly connected to the outcome of this study, the topic, its outcome, and its findings are of interest to the Researcher for the purpose of understanding industry best practices and how to better understand in what ways can industry to Government relations improve. Also, the findings are of significant importance to the Researcher since the Researcher hoped to gain knowledge in the field to better improve negotiations to create win-win scenarios

for the company and the customer, primarily the U.S. Government. Because of these experiences and because of the concerns acquisition reform has had both on the Defense Industry and Lockheed Martin, the Researcher hoped to understand better the benefits to these initiatives for both the Defense Industry and the Government and what are the challenges for both sides as well. By having a better understanding of these initiatives, the Researcher hoped to be able to obtain the knowledge and capabilities to be able to put theory into practice.

### **Validity and Trustworthiness**

Responses from the survey participants contained some subjective and even biased information that cannot be controlled. In an attempt to mitigate these issues as much as possible, survey questions had a combination of closed-ended (Likert) and open-ended questions. Yin (2009) mentions that there are four types of validity for an empirical study.

Construct Validity: This type of validity deals with the understanding of what is being measured, how it is being measured, and if what is being measured is what the researcher thinks one is measuring. In this case, through the literature review and surveys, these methods assisted in establishing validity in this study. The literature sets the groundwork for applicable theories; the surveys allowed the researcher to discuss perceived contractual costs from industry trade associations as well as investigated how industry members are responding to these changes. One thing to note, it was not the intent of this study to determine causation. Since

correlation does not equal causation, this study investigated if there is a relationship between acquisition reform and its effects on perceived contractual costs, as well as if and how is the Defense Industry collaborating in response to these reforms. Thus, the intent of this study was to examine if this warrants future research.

Internal Validity: This type of validity focuses on matching patterns and building explanations. Utilizing open-ended questions within the survey has allowed the respondents a chance to respond beyond the limitations of closed-ended items and allowed the ability to examine if any key patterns exist. For example, when certain statements and phrases were made by the survey respondents, this assisted in laying out patterns that could investigate how acquisition reform and monopsonistic behavior is affecting the industry. Note that according to Yin (2009), Internal Validity only applies to causal type research, thus would not apply to exploratory/descriptive research, such as this study. Thus, this type of validity only serves as a benchmark for future casual research that could arise from this study.

External Validity: External Validity focuses on using theory to examine if the findings are generalizable to the Defense Industry and Arms Market population. By reaching out to two different nation-wide associations, one focusing on federal contract management and the other on defense industry to market representation, as well as reaching out to both industry and Government representatives, this approach intended to increase generalizability to other industries with

monopsonies. Such as industries in other countries which experience high buyer power due to regulation.

Reliability: Based on Yin (2009), if such results are repeatable, it can then add to the validity of the results. Utilizing two different industry associations, via multiple survey responses can provide the opportunity for examining other industries with powerful buyers. The ability to repeat the study will allow for further reliability and furtherance of future research. The reliability of this study is thus dependent on the internal consistency of the bipolar measured dependent variables.

### **Limitations of the Study**

Because the scope of the study is limited to the Defense Industry and only defense contractors within the United States, these are potential limitations in that results from the study could differ in other industries or outside of the United States. Finally, this study is focusing on perceptions from industry representatives as opposed to actuals. Perceptions are used due to the fact that actual data cannot be directly extracted from defense contractors or the Government due to the potential of proprietary information risks. Thus, perceptions do not guarantee the same results, but still allow for a better understanding of BBP's impact for an exploratory based study.

## **Summary of the Dissertation Front-End**

Finally, while this research focused on the Defense Industry with respect to a monopsonistic buyer, the research can be applied to the academic literature and in other industries that face monopsonies.

This study intended to add to the business field of industrial organization by further exploring the industry structure of buyers and examining trends within an industry utilizing countervailing power to influence monopsonistic power. It is the intent of this study to benefit academia and have practical implications that could potentially benefit industries that face monopsonistic buyers by creating a framework from the results of the study to assist firms in industries outside of the Defense Industry with similar market structures. In addition, this study can provide additional managerial implications in understanding the tradeoffs of execution costs and transaction costs as a result of BBP (Tama, 2018).

It was the intent of Chapters 1, 2, and 3 to layout the research proposal, the research path, supporting literature, and how the research intended to be conducted. The back-end of the paper, Chapters 4 and 5 serve as the results and interpretation of the study. The following chapter, Chapter 4, documents what occurred and contains the findings. Interpretation of these findings is covered in Chapter 5. Chapter 5 contains the conclusions that resulted from the findings; this chapter also identifies the implications of the study and what future potential research can result from this study.

## Chapter 4 Findings

### Overview

The intent of this study was to examine monopsonistic influence on the Defense Industry. To accomplish this, the study focused on acquisition reform utilizing Betting Buying Power (BBP) as the vehicle for an exploratory research-based study.

In order to accomplish this, the study first laid out four research questions:

1. How does monopsonistic behavior, through acquisition reform, influence perceived contract costs?

Based on the findings, the study showed that there is perceptions of increased contract costs.

2. How does monopsonistic behavior, through acquisition reform, impact innovation in the long term?

Based on the study, there is support that there is perceptions of decreased innovation as a result of BBP.

3. How is countervailing power being utilized within the Defense Industry as a result of monopsonistic influence through acquisition reform?

Based on the study, there is support that shows perceptions of industry employing increased competitive collaboration and pluralistic influence as a result of BBP.

4. How has acquisition reform influenced commercial diversification?

Based on the study, there is support that shows perceptions of increased commercial diversification as a result of BBP.

The below findings section goes into more detail as to the evidence for support of these responses.

The study then laid out Industrial Organization as the theoretical framework (Jacquemin, 1987), with transaction costs (Williamson, 1979) and pluralism (Connolly, 1995) as supporting theories from the literature. In order to position the study, four hypotheses were identified to support the research questions.

H1: As a result of BBP, defense contractors will demonstrate perceived increases in competitive collaboration with each other in order to circumvent monopsonistic buyer power of the government.

Overall there was support for H1.

H2: As a result of BBP, defense contractors will perceive increases in costs and timeliness within the U.S. Government contracting process.

Overall there was support for H2.

H3: BBP's implementation has resulted in stagnant or decreases in perceived innovation in the long run within the Defense Industry.

Overall there was support for H3.

H4: Acquisition reform (BBP) could influence industry incumbents to either exit the market or enter into commercial type markets as a means of mitigating buyer power and diversifying their revenue streams.

H4A: As a result of BBP, there are perceptions of fewer incumbents within the Defense Industry.

H4B: As a result of BBP, there are perceived increases in commercial diversification.

Overall there was support for H4, H4A, and H4B.

The Hypothesis acceptance criteria was as follows via response means in the survey results:

H1 Supported if  $< 4$

H2 Supported if  $< 4$

H3 Supported if  $> 4$

H4, H4A, and H4B Supported if  $< 4$

Four (4) was used as the baseline since this is the neutral number in the Likert scale. A mean of four (4) indicates no change. Thus, based on the Hypothesis, a mean other than four (4) would indicate the respondents leaned to one side or another based on the respective hypothesis. It is important to note that H3 acceptance criteria's polarity was reversed, this was due to the fact that for these survey questions, disagreements with the responses showed support for the

Hypothesis, as opposed to agreements for the other Hypotheses. The intent of this was to avoid bias by reversing the survey questions in order to see if the respondents weren't just agreeing with all the questions, which the responses show that this was not the case. There were many responses that showed strong disagreements.

The Findings section provides a detailed analysis of the Hypotheses and support for these Hypotheses.

The following section will lay out the research findings in relation to the hypotheses and research questions. The next section in this chapter will then synthesize the data and the final section will provide an overview of the implications of the findings, which will then be further analyzed in Chapter 5.

## **Research Findings**

### **Layout.**

This section will show the results of the close-ended pre-screen items, followed by the themes of the open-ended pre-screen items, and then by both the close-ended and open-ended items for Hypotheses 1 through 4. All items were extracted from SurveyMonkey (2018), the close-ended items were analyzed via SPSS (2017) and the open-ended items were analyzed via NVivo (2017).

Note: That questions 1 and 2 show 100 percent of the respondents saying "Yes" to both questions. This is due to the fact that the survey was set up to automatically excluded all respondents from the study who responded "No" to either or both

questions. The exclusion was due to the fact that the respondent is indicating they do not consent to the study, or they do not meet the inclusion criteria discussed in Chapter 3, respectively.

**Pre-screen Questions.**

Questions 1 and 2 had a 100 percent confirmation that the respondents agreed to participate and that they met the required criteria. Note, this was due to the fact that SurveyMonkey excluded respondents who did not consent or did not meet the inclusion criteria.

**Q3 Please confirm if you are a member of NCMA or NDIA:**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I am a member of NCMA	43	44.3	44.3	44.3
	I am a member of NDIA	35	36.1	36.1	80.4
	I am a member of Both	19	19.6	19.6	100.0
	Total	97	100.0	100.0	

**Q4 I am a \_\_\_\_\_.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other (please specify)	20	20.6	20.6	20.6
	U.S. Department of Defense Employee.	16	16.5	16.5	37.1
	U.S. Defense Contractor Employee	61	62.9	62.9	100.0
	Total	97	100.0	100.0	

Note that for respondents that responded “Other,” common occupations included the following:

- Legal Consultant
- Advisors
- Retirees
- Educators
- Research Employees
- Acquisition Employees

It is also important to note that some respondents who answered “Other” as their fill-in responses could be classified as the either Defense Contractor employees or DoD employees.

**Q5 Approximately how long have you been employed in your current position?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-2 Years	16	16.5	16.5	16.5
	3-5 Years	17	17.5	17.5	34.0
	6-8 Years	15	15.5	15.5	49.5
	Greater than 8 Years	49	50.5	50.5	100.0
	Total	97	100.0	100.0	

**Q6 How familiar are you with Acquisition Reform?**

**AR Familiarity**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Familiar	71	73.2	73.2	73.2
	Neutral	22	22.7	22.7	95.9
	Not Familiar	4	4.1	4.1	100.0
	Total	97	100.0	100.0	

Overall, most respondents were familiar with acquisition reform, with only a small amount being unfamiliar. 22.7 percent felt neutral in this response; this may be due in part that while they have some experience in acquisition reform, their specific programs or jobs have not dealt with it directly.

**Q7 How familiar are you with Better Buying Power?**

**BBP Familiarity**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Familiar	65	67.0	67.0	67.0
	Neutral	25	25.8	25.8	92.8
	Not Familiar	7	7.2	7.2	100.0
	Total	97	100.0	100.0	

Overall, over two thirds of the respondents stated they were familiar with BBP. However, 25.8 percent of the respondents stated they were only somewhat familiar and 7.2 stated they had little familiarity. This could be due to the fact that some respondents had less experience in the field seeing as there were approximately one third of respondents with less than 5 years of experience.

**Group Statistics**

	How familiar are you with Better Buying Power?	N	Mean	Std.	Std. Error
				Deviation	Mean
Collaborate (4 item avg)	Familiar	66	3.3258	1.21289	.14930
	Not Familiar	31	3.3145	1.02259	.18366
Cost (4 item avg)	Familiar	66	3.6098	1.10430	.13593
	Not Familiar	31	3.5242	.79675	.14310
Innovate (4 item avg)	Familiar	66	4.6553	1.44233	.17754
	Not Familiar	31	4.8952	1.30508	.23440
Diversification (4 item avg)	Familiar	66	3.2121	1.22415	.15068
	Not Familiar	31	3.2097	1.05494	.18947

For this item, two groups were created, those familiar with BBP and those not familiar with BBP. Overall, the means of both groups supported all four hypotheses and showed little differences.

Q8 Irrespective of my opinion on Better Buying Power (BBP), I believe BBP has been successful in what it has stated it has intended to do. See definition of BBP above or view the following link for more info on BBP: <http://bbp.dau.mil/>

**BBP Success**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	35	36.1	36.1	36.1
	Undecided	20	20.6	20.6	56.7
	Disagree	42	43.3	43.3	100.0
Total		97	100.0	100.0	

**Group Statistics**

		N	Mean	Std. Deviation	Std. Error Mean
BBP Success	I am a U.S. Department of Defense Employee.	16	2.6250	1.45488	.36372
	I am a U.S. Defense Contractor Employee	61	4.4262	1.39593	.17873

### Independent Samples Two-Tailed T-Test (Significance)

		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
BBP Success	Equal variances assumed	.049	.825	-4.555	75	.000	-1.80123	.39546	-2.58902	-1.01344
	Equal variances not assumed			-4.445	22.787	.000	-1.80123	.40526	-2.64001	-.96245

When comparing responses from DoD Government employees and employees of the Defense Industry, Government employees felt that BBP has been successful as opposed to Industry employees who feel that BBP has been unsuccessful.

Below are the coded themes, elements, and sentiments for the open-ended portion of this item. Coded items were both auto-coded in NVivo and manual coded, common themes that appeared in both coding processes are provided Appendix F. Chapter 5 lays out the interpretation of the key themes that appeared in the survey.

### **Major Themes:**

The below are the major themes found in the survey for this item:

- Little Change
- Excessive Regulation
- Metrics Needed
- Difficult to change
- Negative Trend

See Appendix F for a chart listing the raw findings for this question.

Nvivo detected a 60.87 percent negative sentiment to 39.13 percent positive sentiment. Note that sentiments measure overall feelings by the respondents. The strong negative reactions to this response are in sync with the close-ended and open-ended portions of this response. Overall, while split, respondents felt that BBP has not been successful in its intended purpose, with 43.3 percent. However, there is some support by the respondents that feel that BBP succeeded in its intended purpose, with a percent of 36.07. In addition, 20.62 percent of the respondents were undecided. The reason for the split response may be perhaps how the respondents are defining success. While the question asked for the perspective of BBP and not based on opinion, with a mix of both Government and Industry employees, differing groups may have defined BBP success differently.

**Q9 In regards to Better Buying Power, I feel that I am \_\_\_\_\_ in making an informative assessment of its impacts to the Defense Industry based on my experience with the program.**

**Informed Assessment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Confident	58	59.8	59.8	59.8
	Neutral	27	27.8	27.8	87.6
	Not Confident	12	12.4	12.4	100.0
	Total	97	100.0	100.0	

**Hypothesis 1 Items.**

H1: As a result of BBP, defense contractors will demonstrate perceived increases in competitive collaboration with each other in order to circumvent monopsonistic buyer power of the government.

**Q10 Political Influence**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	51	52.6	52.6	52.6
	Undecided	36	37.1	37.1	89.7
	Disagree	10	10.3	10.3	100.0
	Total	97	100.0	100.0	

### Q11 Complementary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	56	57.7	57.7	57.7
	Undecided	18	18.6	18.6	76.3
	Disagree	23	23.7	23.7	100.0
	Total	97	100.0	100.0	

### Q12 M&A

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	56	57.7	57.7	57.7
	Undecided	18	18.6	18.6	76.3
	Disagree	23	23.7	23.7	100.0
	Total	97	100.0	100.0	

### Q13 Collaboration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	55	56.7	56.7	56.7
	Undecided	19	19.6	19.6	76.3
	Disagree	23	23.7	23.7	100.0
	Total	97	100.0	100.0	

Q14 Overall, how has Better Buying Power influenced Defense Industry political investments, sales of complementary products/services, mergers and acquisitions, and overall competitive collaboration?

**Major Themes:**

The below are the major themes found in the survey for this item:

- Increased Consolidation
- Increased Mergers
- Higher Collaboration
- Collective Influence
- Increased Joint-Ventures

See Appendix F for a chart listing the raw findings for this question.

NVivo detected a 50.98 percent positive sentiment to 49.02 percent negative sentiment.

**Hypothesis 2 Items.**

H2: As a result of BBP, defense contractors will perceive increases in costs and timeliness within the U.S. Government contracting process.

**Q15 Contract Costs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	54	55.7	55.7	55.7
	Undecided	27	27.8	27.8	83.5
	Disagree	16	16.5	16.5	100.0
	Total	97	100.0	100.0	

### Q16 Timeliness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	59	60.8	60.8	60.8
	Undecided	16	16.5	16.5	77.3
	Disagree	22	22.7	22.7	100.0
	Total	97	100.0	100.0	

### Q17 Streamlined

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	56	57.7	57.7	57.7
	Undecided	16	16.5	16.5	74.2
	Disagree	25	25.8	25.8	100.0
	Total	97	100.0	100.0	

### Q18 Efficiency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	57	58.8	58.8	58.8
	Undecided	18	18.6	18.6	77.3
	Disagree	22	22.7	22.7	100.0
	Total	97	100.0	100.0	

Q19 Overall, based on your experience with acquisition reform, how has Better Buying Power impacted the Government contracting process in the form of

timeliness, efficiency, overall contracting costs, and streamlining the acquisition process for defense products and services?

**Major Themes:**

The below are the major themes found in the survey for this item:

- Costly Changes
- Increased OTAs as a Contracting Vehicle
- Inefficient Process
- Less Streamlined
- Less Improved

See Appendix F for a chart listing the raw findings for this question.

NVivo detected a 69.35 percent negative sentiment to 30.65 percent positive sentiment. Based on the polarization of these reactions, it appears there are strong negative reactions to this response. These reactions indicate strong feelings by the respondents with regards to contract costs. Since BBP was focused on cost reduction, it may explain the stronger reactions to this open-ended question than the others.

**Hypothesis 3 Items.**

H3: BBP's implementation has resulted in stagnant or decreases in perceived innovation in the long run within the Defense Industry.

### Q20 R&D

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	19	19.6	19.6	19.6
	Undecided	28	28.9	28.9	48.5
	Disagree	50	51.5	51.5	100.0
	Total	97	100.0	100.0	

### Q21 Innovation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	20	20.6	20.6	20.6
	Undecided	19	19.6	19.6	40.2
	Disagree	58	59.8	59.8	100.0
	Total	97	100.0	100.0	

### Q22 Developmental

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	20	20.6	20.6	20.6
	Undecided	28	28.9	28.9	49.5
	Disagree	49	50.5	50.5	100.0
	Total	97	100.0	100.0	

**Q23 New Technologies**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	22	22.7	22.7	22.7
	Undecided	22	22.7	22.7	45.4
	Disagree	53	54.6	54.6	100.0
	Total	97	100.0	100.0	

Q24 Overall, what do you see the impact Better Buying Power has had on in investing in R&D, innovation, developmental contracts, or creation of new defense technologies within the Defense Industry?

**Major Themes:**

The below are the major themes found in the survey for this item:

- Less Innovation
- Lower Development
- Increased Utilization of Other Transaction Authority (OTAs)
- Low Incentives
- Unwillingness to invest by the Industry

See Appendix F for a chart listing the raw findings for this question.

NVivo detected a 58 percent negative sentiment to 42 percent positive sentiment. Similar to the responses to changes in contract costs, innovation also showed strong negative sentiments within the Hypothesis questions. These sentiments may be

linked to the fact that BBP had innovation as one of its tenants, however respondents feel that innovation has reduced or been stagnant at best.

#### Hypothesis 4 Questions

H4: Acquisition reform (BBP) could influence industry incumbents to either exit the market or enter into commercial type markets as a means of mitigating buyer power and diversifying their revenue streams. Note that items Q25 and Q28 are measured in support of H4A and items Q26 and Q27 are in support of H4B.

#### Q25 Market Exit

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	48	49.5	49.5	49.5
	Undecided	30	30.9	30.9	80.4
	Disagree	19	19.6	19.6	100.0
	Total	97	100.0	100.0	

#### Q26 Commercial

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	56	57.7	57.7	57.7
	Undecided	23	23.7	23.7	81.4
	Disagree	18	18.6	18.6	100.0
	Total	97	100.0	100.0	

**Q27 Dual Use**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	64	66.0	66.0	66.0
	Undecided	22	22.7	22.7	88.7
	Disagree	11	11.3	11.3	100.0
	Total	97	100.0	100.0	

**Q28 Fewer Companies**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	54	55.7	55.7	55.7
	Undecided	35	36.1	36.1	91.8
	Disagree	8	8.2	8.2	100.0
	Total	97	100.0	100.0	

Q29 Overall, how has Better Buying Power influenced diversification? Such as defense contractors exiting the arms market, expanding into commercial markets, developing dual-use technologies, and the impact on the number of Defense Industry incumbents, such as new competitors or small business participation.

**Major Themes:**

The below are the major themes found in the survey for this item:

- Disruptive Technologies by Commercial Contractors
- Status Quo of large contractors
- Increases in dual-use technology

- Less smaller businesses
- Less competition

See Appendix F for a chart listing the raw findings for this question.

NVivo detected a 56.86 percent negative sentiment to 43.14 percent positive sentiment.

**Synthesis and Summary of Data**

The following are four separate T-Tests that were conducted for Hypotheses 1 through 4. The T-Test were only inclusive of the data from the closed-ended questions.

**Hypothesis 1.**

**One-Sample Statistics**

	N	Mean	Std. Deviation	Std. Error Mean
Political Influence	97	3.3505	1.29133	.13111
Complementary Products	97	3.4227	1.48489	.15077
M&A	97	3.0619	1.41285	.14345
Competitive Collaboration	97	3.4536	1.47211	.14947
Collaborate (4 item avg)	97	3.3222	1.15016	.11678

### One-Sample Test

	t	df	Sig. (2- tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Political Influence	-4.954	96	.000	-.64948	-.9097	-.3892
Complementary Products	-3.829	96	.000	-.57732	-.8766	-.2780
M&A	-6.540	96	.000	-.93814	-1.2229	-.6534
Competitive Collaboration	-3.656	96	.000	-.54639	-.8431	-.2497
Collaborate (4 item avg)	-5.804	96	.000	-.67784	-.9096	-.4460

### Reliability Statistics

Cronbach's Alpha	N of Items
.896	5

Due to the fact that strongly agree is a “1” and strongly disagree is a “7”, the expected mean value is a “4”. Thus, the Hypothesis can be accepted if the mean is less than “4”. If the mean is greater than or equal to “4”, then the study failed to reject the null. In this case, all four items and the average of the four had means below “4”, thus there is support for Hypothesis 1.

## Hypothesis 2.

### One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Contract Costs	97	3.1031	1.48243	.15052
Timeliness	97	3.1856	1.71592	.17423
Contracting Process	97	3.1649	1.68746	.17134
Contracting Efficiency	97	3.2474	1.61394	.16387
Cost (4 item avg)	97	3.5825	1.01276	.10283

### One-Sample Test

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
					Test Value = 4	
Contract Costs	-5.959	96	.000	-.89691	-1.1957	-.5981
Timeliness	4.675	96	.000	.81443	-1.1603	-.4686
Contracting Process	-4.874	96	.000	-.83505	-1.1751	-.4950
Efficiency	-4.592	96	.000	-.75258	-1.0779	-.4273
Cost (4 item avg)	-4.060	96	.000	-.41753	-.6216	-.2134

### Reliability Statistics

Cronbach's Alpha	N of Items
.763	5

Due to the fact that strongly agree is a “1” and strongly disagree is a “7”, the expected mean value is a “4”. Thus, the Hypothesis can be accepted if the mean is less than “4”. If the mean is greater than or equal to “4”, then the study failed to reject the null. In this case, three of the four items and the average of the four items had means below “4”, thus there is support for Hypothesis 2. Note the

polarity of the second item in this Hypothesis measuring “Timeliness” is in reverse and thus means above “4” shows support for the hypothesis.

**Hypothesis 3.**

**One-Sample Statistics**

	N	Mean	Std. Deviation	Std. Error Mean
R&D Investment	97	4.6907	1.48156	.15043
Innovation Increase	97	4.8351	1.54570	.15694
Development Contracts	97	4.6082	1.44739	.14696
New Defense Technology	97	4.7938	1.66419	.16897
Innovate (4 item avg)	97	4.7320	1.39766	.14191

### One-Sample Test

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
R&D Investment	4.592	96	.000	.69072	.3921	.9893
Innovation Increase	5.321	96	.000	.83505	.5235	1.1466
Development Contracts	4.139	96	.000	.60825	.3165	.9000
New Tech Increase	4.698	96	.000	.79381	.4584	1.1292
Innovate (4 item avg)	5.158	96	.000	.73196	.4503	1.0136

### Reliability Statistics

Cronbach's Alpha	N of Items
.958	5

Due to the fact that strongly agree is a “1” and strongly disagree is a “7”, the expected mean value is a “4”. Thus, the Hypothesis can be accepted if the mean is greater than or equal to “4”. If the mean is less than “4”, then the study failed to reject the null. In this case, all four items and the average of the four had means above “4”, thus there is support for Hypothesis 3.

#### Hypothesis 4.

#### One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Exit Arms Market	97	3.4948	1.41512	.14368
Enter Commercial Market	97	3.2990	1.48018	.15029
Dual-Use Technology	97	2.9278	1.49476	.15177
Fewer Defense Companies	97	3.1237	1.32490	.13452
Diversification (4 item avg)	97	3.2113	1.16723	.11851

#### One-Sample Test

	t	df	Sig. (2- tailed )	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Exit Arms Market	-3.516	96	.001	-.50515	-.7904	-.2199
Enter Commercial Market	-4.665	96	.000	-.70103	-.9994	-.4027
Dual-Use Technology	-7.064	96	.000	-1.07216	-1.3734	-.7709
Fewer Defense Companies	-6.514	96	.000	-.87629	-1.1433	-.6093
Diversification (4 item avg)	-6.655	96	.000	-.78866	-1.0239	-.5534

#### Reliability Statistics

Cronbach's Alpha	N of Items
.900	5

Due to the fact that strongly agree is a “1” and strongly disagree is a “7”, the expected mean value is a “4”. Thus, the Hypothesis can be accepted if the

mean is less than “4”. If the mean is greater than or equal to “4”, then the study failed to reject the null. In this case, all four items and the average of the four had means below “4”, thus there is support for Hypothesis 4.

Below is a Two-Tailed T-Test which split the respondents into two groups, one for Government employees and the other for Industry employees, in order to see if there are differences in their responses.

**Group Statistics**

	I am a _____	N	Mean	Std. Deviation	Std. Error Mean
Collaborate (4 item avg)	U.S. Department of Defense Employee.	25	3.3700	.84816	.16963
	U.S. Defense Contractor Employee	72	3.3056	1.24274	.14646
Cost (4 item avg)	U.S. Department of Defense Employee.	25	4.1600	1.03803	.20761
	U.S. Defense Contractor Employee	72	3.3819	.92972	.10957
Innovate (4 item avg)	U.S. Department of Defense Employee.	25	4.0400	1.14036	.22807
	U.S. Defense Contractor Employee	72	4.9722	1.40519	.16560
Diversification (4 item avg)	U.S. Department of Defense Employee.	25	3.7000	1.31498	.26300
	U.S. Defense Contractor Employee	72	3.0417	1.06975	.12607

After splitting the data into two groups and analyzing the data via a Two-Tailed T-Test, on all four Hypothesis categories, the Industry Employees showed support for the Hypotheses. As for the Government employees, with the exception of Hypothesis 2, on average, these respondents showed support for Hypotheses 1, 3, and 4.

Below is a summary of the means:

**Table 1 Close-Ended Highlights**

Mean Summary				
Closed-Ended Item	Government	P-Value Government	Industry	P-Value Industry
Q10	3.2800	0.000	3.3750	0.000
Q11	3.5200	0.000	3.3889	0.000
Q12	3.1200	0.000	3.0417	0.000
Q13	3.5600	0.000	3.4167	0.000
Average Collaboration	3.3700	0.000	3.3056	0.000
Q15	3.7600	0.000	2.8750	0.000
Q16	4.2000	0.000	5.0278	0.000
Q17	4.1200	0.000	2.8333	0.000
Q18	4.5600	0.000	2.7917	0.000
Average Costs	4.1600	0.000	3.3819	0.000
Q20	4.0800	0.000	4.9028	0.000
Q21	4.1600	0.000	5.0694	0.000
Q22	4.0400	0.000	4.8056	0.000
Q23	3.8800	0.000	5.1111	0.000
Average Innovation	4.0400	0.000	4.9722	0.000
Q25	4.0400	0.000	3.3056	0.000
Q26	3.9600	0.000	3.0694	0.000
Q27	3.3200	0.000	2.7917	0.000
Q28	3.4800	0.000	3.0000	0.000
Average Diverse	3.7000	0.000	3.0417	0.000

Highlighted in yellow are items that do not support the Hypothesis in their respective category. In green highlight are areas that does support the Hypothesis in its respective category.

Note for Q10, Q20, and Q25, respondents were, on average, split in their responses with the highest percentage of neutral responses being higher than all other responses of 37.1, 28.9, and 30.9 respectively. In addition, Q17 had an opposing response rate of 25.7%, this split is due to differing opinions between Government respondents and Industry respondents. For Q10, the reason for the split is likely due to fact that some of the respondents are a mix of both Government and Industry employees and may see political influence from a different perspective. For Q20, this split may be due in part because of the administration change and its focus on innovation, even though this study is strictly measuring BBP's effects. For Q25 and Q28, this split is evident in the open-ended responses which indicate that there are increases in companies exiting the industry as a result of acquisition reform, these exits are more likely to occur for small businesses. With the exception of contract costs, overall Government and Industry responses are in agreement. The reason for the disagreement of contract costs may be perspective. Government may feel they are getting improved costs at a contract level, Industry may feel different. What is also interesting to note is that the P-Value for all Hypothesis items is significant at the 0.0001 level.

### **Key Highlights of Coded Responses.**

Overall, the coded responses remain consistent with the Closed Ended items of their respective Hypotheses. While there are some patterns of more conviction in the open-ended responses over the closed-ended responses, overall there is consistency. However, it is important to note that some of the open-ended responses led to some responses that have provided interesting findings for the research, which will be discussed further in Chapter 5.

The coding process was as follows:

1. Open-ended responses were collected in the surveys
2. Responses were auto-coded in NVivo
3. Responses were then manual coded using the In Vivo method, which lays out themes with the intent of giving respondents an overall voice (Saldaña, 2015). Thus, in this case those voices are both the Government and the Defense Industry.
4. Recurring items were cross-compared between the auto-coded responses and manual coded responses and were provided in the charts in Chapter 4.
5. Key themes that supported the Hypotheses were noted throughout Chapters 4 and 5
6. Unique themes that differed from what was measured were provided in Chapter 5 in more detail with interpretations of the meanings.

Below are some of the key highlights made by the respondents:

### Hypothesis 1

- Significant agreement that there are increased mergers and acquisitions as a result of BBP.
- Important to note that these acquisitions seem to be larger enterprises absorbing smaller enterprises. If this being the case, it would go against one of the goals of BBP to increase competition and small business participation.

### Hypothesis 2

- Less efficiency in the contracting process, increased costs, increased regulations, and increased bureaucracy. Thus, based on these results, BBP has showed increased perception of increased transaction costs.
- Increased usage for Other Transaction Authorities (OTAs) as a potential contracting vehicle, this is an important finding and the implications will be discussed later in Chapter 5.

### Hypothesis 3

- Innovation has decreased due to fear of Contracting Officers taking risks, the Government reluctant to allow industry disrupters, and reduced R&D funding.

### Hypothesis 4

- Small businesses are the most impacted by BBP and the most likely to either be acquired or exit the industry.

- Direct impacts of BBP has resulted in reduced competition and innovation that has moved to the commercial market due to high profit margins.

### **Contribution to Applied Practice**

The study contributed to the practice in three ways. First, it contributed to the theoretical literature in that it expanded the Industrial Organization literature, as identified in Chapter 2 “Industry Structure Continuum.” It examined the trends in competitive collaboration, which can assist in identifying the potential of supplier countervailing power. The second area of contribution is that the study examined the managerial implications of acquisition reform in the form of contract costs, innovation, and diversification. Finally, the study contributed in providing a program review of BBP to identify its effects on the industry. The following chapter, Chapter 5, will go into further detail as to the contribution of the study, the implications of the study, and final recommendations.

## **Chapter 5: Discussions, Implications, Recommendations**

### **Overview**

Chapter 4 laid out the findings of the study. The following chapter consists of a discussion of the results, the implications of the results, and evidence-based recommendations for further addressing the problem from a managerial perspective as well as a theoretical framework from an academic perspective. The next section will discuss the contribution of the study from a theoretical view on two bases: the model contribution to the Industrial Organization continuums completed in Chapter 2 and a model developed for countervailing power for suppliers developed after the completion of this study. The subsequent section will discuss the implications of these findings from a pragmatic perspective and how these contributions can be applied. The final section will discuss further recommendations, ideas for future research, and will conclude the dissertation.

### **Contribution of the Study**

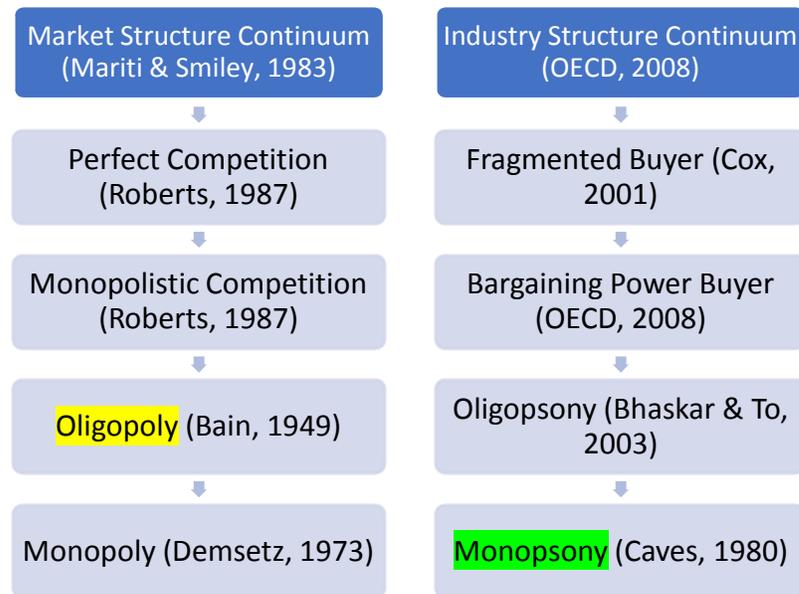
The study first contributed to the literature during the proposal process. The contribution was discussed in Chapter 2 when it identified that the “Market Structure” within the Industrial Organization (IO) literature had not been clearly defined. As it stands, the IO literature provides a spectrum for understanding industry concentration. The continuum begins with perfect competition, which in prior literature assumes markets are fully efficient and competition is fluid with no capability for monopolies (Chamberlin, 1933). The efficient market hypothesis is

contradicted by the additions of monopolistic competition, oligopolies, and monopolies creating a continuum of increased company market share (Roberts, 1987). Thus, the very existence of the IO literature is that Perfect Competition is not the only type of industry and arguably, Fragmented Buyers is not the only type of market respectively. The IO literature also discusses oligopsonies and monopsonies, with monopsonies being the main focal point of the study. What is absent from the literature, but implied, is a mirrored continuum for buyer concentration. Therefore, the study identified the concepts of “Fragmented Buyers” to mirror “Perfect Competition” and “Bargaining Buyers” to mirror “Monopolistic Competition” and thus arguably complete the industry structure continuum for buyers. These inferences were created from the comparison that OECD (2008) made to monopsonies and buyers with bargaining power as well as buyers with no market power. The idea is that like “Perfect Competition,” “Fragmented Buyers” are numerous and compete off one another for supply, thus giving vendors many choices eliminating negotiation power to these buyers, an example being retail shoppers (Jimenez, 2002). In addition, like “Monopolistic Competition,” “Bargaining Power Buyers” have some level of market power despite being numerous, example being a car dealership, where a buyer can negotiate the price, but still ultimately has little market power. Overall, within the IO literature, just like there is a continuum within the seller portion of industry, the literature, and this research, demonstrates that there is also a respective continuum

of buyers within a market. Thus, an industry's most optimal position is for it to be a monopoly where as a market's optimal position is to be a monopsony.

Below is the IO Structure figure provided in Chapter 2:

**Figure 3 Industrial Organization Continuum**



**Yellow:** Defense Industry (Based on the Herfindahl-Hirschman Index (Davis, 2006).

**Green:** Arms Market (USG) based on attributes of monopsonies (OECD, 2008).

As discussed in Chapter 3, it was the intent of this study to assist in filling the gap in the Industrial Organization literature, that gap being an understanding as to how countervailing power can work for suppliers as opposed to the original theory being applied to buyers. It was also the intent to examine the managerial implications of the study and an overall review of Better Buying Power as well as

potential recommendations for future acquisition reform, both of these will be discussed in the following section ‘Discussion and Implications.’ Thus overall, countervailing power has both theoretical and pragmatic applications.

The idea of countervailing power, is traditionally, where buyers attempt to extract channel power from powerful suppliers, this is accomplished by a buyer creating new competition by entering the market oneself or competing existing suppliers off of another (only possible if it is an oligopoly and not a monopoly), and controlling the level of demand (Chen, 2003). The study examined how countervailing power may be implemented from a supplier perspective, something absent from the literature (Snyder, 1996). To accomplish this, the study examined competitive collaboration and pluralism as methods of countervailing power and hypothesized increases in both as a result of BBP.

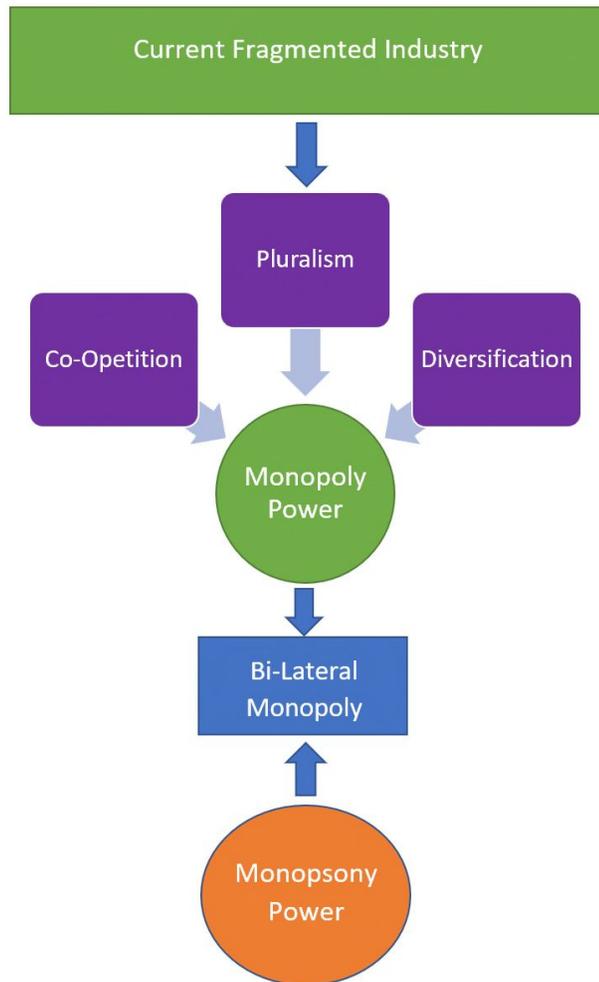
Since there is support for Hypothesis 1, it may be apparent that there is support for these tactics. Additionally, the open-ended responses appeared to be in support of Hypothesis 1. Common themes that appeared in the coded responses were: corporate consolidation, enterprise consolidation, influence, larger industry partner, increased communication, and collective political influence.

In addition, Hypothesis 4 inferred that there would be an increase in diversification, during the proposal process of the study, this concept was not included as a tactic for countervailing power; however, the results of the survey seem to indicate otherwise, which while unintentional, is significant. Since there is

also support for Hypothesis 4, this indicates support that diversification, alongside pluralism, and co-opetition can be methods of countervailing power. This is due to the fact that diversification gives defense contractors more options in other markets and thus less dependency on defense sales. Therefore, commercial diversification can serve as another form of countervailing power. The open-ended responses showed support Hypothesis 4. Common supporting themes that appeared were dual-use contracting, commercial contracting, niche technologies, service business, and small business diversification. It is interesting to note that there was a common theme of small businesses being more likely to diversify, this could further decrease competition for larger enterprises. It is also interesting to note that small business diversification appeared as a common coded theme, this may be due to the fact that since small businesses have less vested capital tied to the defense industry as opposed to larger companies, they may be more likely to diversify. What the respondents made clear was that small businesses were the most heavily hit as a result of BBP. This may be due to the fact that larger enterprises had more capital to protect themselves from the impact. What the respondents also made clear is that there are increases in Defense Industry consolidation with larger companies acquiring smaller companies as well as mergers of equals.

Below is a framework for how countervailing power is presented for suppliers in the Defense Industry work:

**Figure 4 Path to Countervailing Power**



Key:

Countervailing Influencers = Purple

Industry Structure = Green

Balance of Power = Blue

Market Structure (Monopsonist) = Orange

The above figure illustrated how a fragmented industry, can increase its monopoly power, to counter monopsonistic power. The fragmented industry in this case is the Defense Industry, in effect it represents any industry that is not a monopoly (i.e., Perfect Competition, Monopolistic Competition, and Oligopoly), thus fragmented in that it is not whole as a Monopoly. Pluralism, Co-Opetition, and Diversification are the elements of countervailing power, that was researched in this study, which reaches monopoly power. In effect, what countervailing power can accomplish is a bilateral monopoly. A bilateral monopoly is when the market has a monopsony and the industry has a monopoly (Campbell, 2007), thus a balance of power (Siegel & Fouraker, 1960). While this is impractical due to anti-trust laws and due to the fact that collaboration can increase internal transaction costs due to intellectual property protection needs (Hennart, 1988), countervailing power can assist in making the market/industry closer to a bilateral monopoly though likely not fully. The next section discusses the contribution of the study by going over the managerial implications of the research in two areas: first by establishing recommended approaches to both the Government and Defense Contractors and then a review of the impacts of BBP.

## **Discussion and Implications**

### **Overview.**

The previous section focused on the theoretical contribution of the dissertation; this section will now focus on the practical implications of the study

by examining recommendations for the Defense Industry and the U.S. Government. Hypothesis 2 and Hypothesis 3 found support in the study; thus, the implications for this are that there are perceptions of an upward trend in contract costs and a downward trend in innovation, respectively, as a result of BBP. Common themes in support of Hypothesis 2 was significant cost increases, burdensome requirements, cost creep, inefficiencies, and extra non-value-added steps. Common themes related to Hypothesis 3, from the respondents, was the concept of the need to capitalize on disruptive technologies and the need for the Government to leverage innovation industry trends. Throughout all four of the open-ended responses there were significant mentions to Other Transaction Authorities (OTAs) as being increased in usage as a result of BBP. According to current Undersecretary of Defense Ellen Lord (Mehta, 2017), the timeliness within Government contracting has been high; thus, there are increases in the usage of OTAs as a workaround. An OTA is a contracting vehicle that does not follow standard government contracting methods, such as the FAR and DFARS. Simply put, they are instruments utilized to speed up the transaction process to get needed products and services, typically prototype goods, out quickly. Thus, it is apparent that the Government is beginning to recognize the need to speed the contracting process such that it is going out of its way to use non-conventional contracting methods (Davis & Wilson, 2011). Thus, revisions to BBP to improve the

contracting process and therefore accepting non-conventional contracting could be beneficial in improving the timeliness of Government contracting.

Previously, industry collaboration was discussed as an element of countervailing power. However, consider the case of T-Mobile, at present T-Mobile is attempting to merge with Sprint. Because of the small concentrated number of cellular providers, there are anti-trust concerns (Hardy, 2018). T-Mobile, however, has capitalized on the need for the merger to compile both companies' resources to speed up the creation of 5G (Zhang, 2017). T-Mobile's argument is the need to develop 5G before China develops the technology, which could be a potential national security risk despite not being defense technology and thus is convincing lawmakers to approve the merger. At present, T-Mobile feels confident that this argument will allow the merger to be approved. This is also in alignment with the National Defense Strategy, which discusses the need to position the U.S. military via innovation to counter, Russia and China as emerging peer rivals (Mattis, 2018). Thus, it may be in the Government's best interest to potentially encourage defense corporate consolidation or collaboration on much-needed programs of national security (Cheung, 2013). This is already present with the utilization of defense industry consortiums. Some of these consortiums specialize in OTAs. Industry collaboration, in the form of mergers, teaming agreements, joint-ventures, and consortiums, while can serve to strengthen the

Defense Industry's position, could also serve to enhance the goals of the Government through innovation (Ucko, 2008).

### **Recommendations to the Government and Defense Industry.**

Thus, based on this study, the recommendations to the Government are as follows:

- Limit the usage of FPIF and CPIF contracts, which increased after BBP, but were found to be burdensome and potentially disincentivized innovation according to the open-ended responses in the survey.
- Encourage industry collaboration on critical products and services to meet the needs of current peer adversaries based on questions from survey items Q10 through Q13, which all had P-Values of 0.000.
- Continue to capitalize on commercial contracting to be retrofitted for defense purposes based on questions from survey items Q25 through Q28, which all had P-Values of 0.000.
- Incentivize defense partners to innovate, not just via R&D, but via free knowledge growth, such as the case of Defense Acquisition University, as per one of the goals of BBP based on questions from survey items Q20 through Q23, which all had P-Values of 0.000.
- Measure and take into account the actual contracting costs, examine the trade-offs of reducing some of the processes and the measurable risks to the program and make a decision based on cost reduction, speed of contracting, and needs to national security.

Recommendations for the Defense Industry are:

- Diversify commercially by taking advantage of redeployment strategies in order to retrofit defense technologies that may be used for commercial purposes to reduce risks of a lower defense budget (Anand, 2004).
- Increase international sales to further boost diversification
- Work with the Government to establish needed means of collaboration that could benefit defense contractors as to avoid price wars and yet meet the Government's security needs
- Capitalize on collaboration on programs needed to engage peer adversaries.
- Examine create a cost-benefit analysis between contract costs and production costs before and after BBP based on questions from survey items Q15 through Q18, which all had P-Values of 0.000.

#### **Analysis of BBP.**

In the survey, when asked has BBP succeeded in its intended purpose, the responses have been mixed skewing slightly in disagreement. 5 Percent said they strongly agreed, 15 percent said they agreed, 17 percent said they somewhat agreed, 20 percent were neutral, 18 percent somewhat disagreed, 21 percent said they disagreed, and 5 percent said they strongly disagreed. The coded themes seem stronger in their convictions, NVivo detected a 60.87 percent negative sentiment. The themes state some mixed responses to some stronger. Phrases such as “major change” come contrary to phrases like “little change.” However, common themes

such as excessive regulation, cost overruns, and contract cost overruns were mentioned more often and thus stood out in showing cost impacts as a result of BBP. Since this study examined perceptions and one of the measures was contract costs, it would appear that BBP has increased costs, de-incentivized innovation, encouraged collaboration, and encouraged diversification. However, it would be interesting to examine a comparison of changes in production costs and compare it to changes in contract costs and to see if first production costs decreased and if so, is the trade-off worth it? Note that this study only focused on contract costs. The final section will discuss recommendations for future research as well as conclude the study.

### **Recommendations and Conclusions**

The previous section discussed the implications of the study and recommended approaches to both the Defense Industry and the U.S. Government. While easier said than done, if implemented, these recommendations could benefit the Government by creating a starting point as to further streamline the acquisition process, encourage innovation, and understand the impact of transaction costs to production costs and determine if a tradeoff approach is best (Hoffman, 2011). For the Defense Industry, the above recommendations could serve to strengthen their negotiation position, boost diversification on both commercial and foreign sales, and capitalize on the future demands of the Government.

As it stands, this research can be furthered by the following:

- Utilization of actual cost data over perceptions
- Comparison of contract costs to production costs and conduct a tradeoff analysis
- Analysis of Foreign Sales as a potential form of countervailing power

Focusing on the last point, in the National Defense Strategy, Secretary of Defense Mattis (2018) stresses the importance of national alliances and equipping these allies with much needed military products and services. This item could be a potential opportunity for the Defense Industry to expand its portfolio and for the Government to create jobs, strengthen alliances, and increase economic balance of trade.

After the results of this study, a new research question emerged that could be used for future research.

Future Research Question: Are there benefits to the Government to allow a strengthened position for defense contractors to compete internationally and commercially in order to strengthen the Government's overall position militarily?

As a result of this research question, three propositions have emerged as potentials for future research:

Proposition 1: Increases in international sales could also be a potential for countervailing power.

Proposition 2: A monopsonist may benefit from controlled levels of corporate consolidation to fit its demand goals, for the Government this may be internationally.

Proposition 3: Small businesses are more likely to enter commercial markets due to the fact they have less capital investments tied to the Defense Industry as opposed to their larger peers.

Overall, it was the intent of this study to explore the potential of improvements to acquisition reform, to explore how countervailing power could be implemented in theory, and to examine the current impact of BBP. Thus, this study can assist in setting the groundwork for future research in the IO literature and recommended strategies for acquisition reform. This study is not intended to be an end to a means; instead this study is intended to serve as a benchmark for this area of study with the goal of creating a contribution to the gap in the literature and sparking more research into Government and Industry joint strategy.

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## Appendix A

### Definition of Terms

The following are key terms that have been and will be used throughout this dissertation. The definitions have been defined from the literature, industry terminology, and applicable definitions by the Researcher that apply to this dissertation. In addition, this list includes acronyms spelled out for reference that has been used throughout the document.

Acquisition Streamlining: The objective of acquisition streamlining is to reduce the time and cost required for acquiring systems. In order to improve the quality of those systems by ensuring that solicitations and contracts contain only necessary specification standards and related documents that have been tailored for application at the most appropriate time in the acquisition cycle (Nash, Schooner, and O'Brien-DeBakey, 2013).

AIA: Aerospace Industries Association

Arms Manufacturing Market (Arms Market): As it pertains to this study, are the buyer/customers who acquire products and services from the Defense Industry. Primarily, this includes the U.S. Government. In addition, this market can include, but is not limited to, foreign governments, other defense contractors, State and Local Governments, and commercial buyers both domestic and international.

Best Value: As defined by the Department of Defense, is the “competitive, negotiated procurements in which the Government reserves the right to select the

most advantageous offer to the Government by evaluating and comparing factors in addition to cost or price (Federal Acquisition Regulation, 2005).

BBP: Better Buying Power

Contracting Officer: An individual authorized to contract on behalf of the Government (Federal Acquisition Regulations, 2005).

Contractor: For the sake of this dissertation and unless specified otherwise, Contractor was defined as a member of the Defense Industry or defense contractor.

Defense Industry: “The Defense Industrial Base Sector is the worldwide industrial complex that enables research and development, as well as design, production, delivery, and maintenance of military weapons systems, subsystems, and components or parts, to meet U.S. military requirements.” (Department of Homeland Security, 2013). For the sake of this dissertation, and unless specified otherwise, the Defense Industry shall be limited to only the Defense Industry of the United States.

DFARS: Defense Federal Acquisition Regulation Supplement

Direct Commercial Sales (DCS): According to the Defense Security Cooperation Agency (DSCA), (2017), a DCS contract is a contract in which the defense contractor sells military products and services directly to the foreign country. A DCS sale is heavily regulated and must be approved by the DSCA and not violate the ITAR.

FAR: Federal Acquisition Regulation

Foreign Military Sales (FMS): According to the Defense Security Cooperation Agency (DSCA) (2017), an FMS contract is a contract in which a defense contractor sells to the United States Government who in turn sells to a Foreign Military entity. In an FMS contract, the defense contractor does not sell directly to the foreign entity.

GSA: General Services Administration

Government: For the sake of this dissertation and unless specified otherwise, Government shall be defined solely as the United States Government.

Incentive Contract: A negotiated pricing arrangement that gives the contractor higher profit and fees for better performance or lower profits for worse performance in prescribed areas (cost, delivery, or technical performance), (Nash, Schooner, and O'Brien-DeBaakey, 2013).

ITAR: International Traffic in Arms Regulations

Monopsony: A situation in which there is only one buyer within a market (Grundman, 2010).

NCMA: National Contract Management Association

NDIA: National Defense Industrial Association

Sequestration: According to the Congressional Budget Office (CBO) (2011), sequestration is the automatic spending cuts to the U.S. Government budget set in motion on January 1, 2013, as a result of the Budget Control Act (BCA) of 2011.

Warfighter: The U.S. Department of Defense defines warfighter as a soldier in combat. The term Warfighter is inclusive of all branches of the military including the Army, Navy, Marines, Airforce, and the Coast Guard. Warfighter can also include members of the intelligence community.

## **Appendix B**

### **Government Contracting Process.**

According to the Department of Defense (2012), the Government contracting process is as follows:

1. First, the U.S. Government conducts acquisition planning and market research for what products/services that are in need.
2. The need is then electronically advertised in the Federal Business Opportunities site.
3. The solicitation is then sent electronically to the vendors.
4. The vendors then submit their proposals to the solicitations.
5. The Government then evaluates the bids from the contractors.
6. If applicable, the vendors present their proposal to the U.S. Government.
7. If applicable, the Government and the vendors negotiate the terms of the contract and pricing.
8. Large vendors then submit their subcontracting plan as required by regulations.
9. If it is a competitive bid versus sole source, the Government makes a down selection and debriefs the vendors.
10. Finally, the contract is awarded.

### **History of Federal Procurement and Acquisition Reform.**

As of now, according to the Defense Acquisition University (2012), BBP is the latest in U.S. Government implementations of defense acquisition reform. BBP was initiated by Carter (2010), at the time Under Secretary of Defense, in his memorandum from the Pentagon titled *BBP: Guidance for Obtaining Greater Efficiency and Productivity in Defense Spending*. In this memorandum, Former Undersecretary of Defense Ashton Carter laid out his plan to improve the acquisition process by seeking best value products for the military and taxpayers with the concept of “do more without more.” BBP has since gone through updates, from its inception to BBP 2.0 and BBP 3.0. However, BBP is not the first form of defense acquisition reform. According to Reeves (1996), acquisition reform has had its roots in the United States all the way back to the revolutionary war. In a 200-year span, Congress has passed over 4000 acquisition statutes. However, it was not until after World War I and World War II, where the Government began to issue major reform within its defense procurement process.

## **Appendix C**

### **Overview of the Defense Industry**

At the commencement of this research, an industrial analysis, as well as a market analysis, and organizational analyses were compiled and summarized to both assist the researcher and the reader. Thus, this data is only current as of 2016.

#### **Industry Description and Outlook.**

For the sake of this study, the Defense Industry segments have been looked primarily under the North American Industry Classification Codes (NAICS) 336410A (Aircraft, Engine & Parts Manufacturing in the US) (Soshkin, 2016) and 336410B (Space Vehicle & Missile Manufacturing in the US) (Soshkin, 2016). This data was compiled from industry reports such as Marketline, IBISWorld, and Government Publications. These industry segments are inclusive of weapon systems, vehicles, aerospace technology, space systems, and etc.

According to Marketline (2015), the Defense Industry is based on the revenue generated from the civil and military procurements of aerospace and defense technology. The Defense Industry had a collective market capitalization of over \$461.9 Billion. The Defense Industry has experienced a negative growth rate averaging -1.6 percent in years 2010 to 2014. However, the industry is projected to show positive growth up to 2019. According to the IBISWorld Industry Report, the Defense Industry lifecycle is in the mature phase (Soshkin, 2016). Table 2 shows a list of the top 10 U.S. Defense Contractors by revenue in 2015 provided by Statista.

**Table 2: Industry Expenditures**

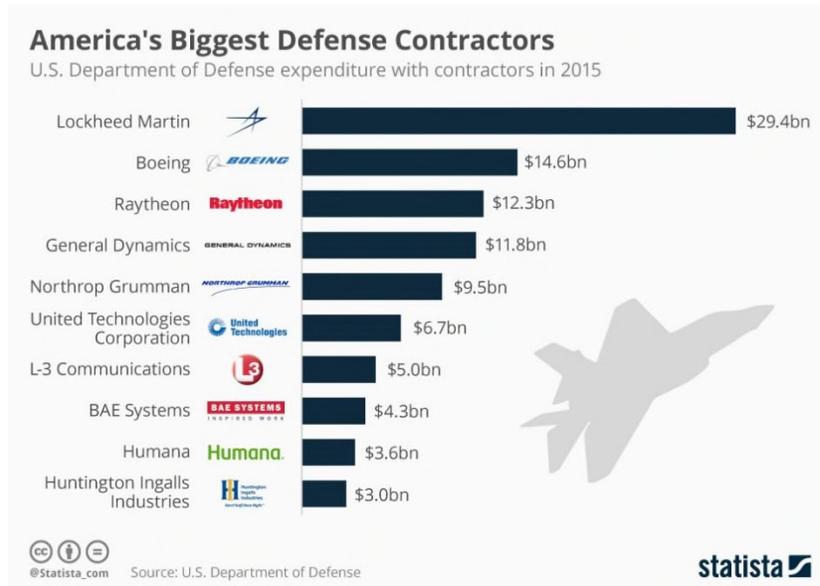


Table 2 was taken from Statista, McCarthy (2016). According to the Department of Defense, the top three leading U.S. Defense Contractors are Lockheed Martin, Boeing, and Raytheon by defense revenue. As of September 2017, Northrop Grumman plans to acquire Orbital ATK, which will solidify them as the number 2 Defense Contractor in the world (Cameron, 2017).

**Representing Trade Associations used in the Study.**

The National Defense Industrial Association (NDIA) is an American industry trade association that represents the Defense Industry. This association is a collective industry association that represents U.S. defense contractors to public venues and the Government. The National Contract Management Association (NCMA) is representative of professionals who work in the field of contracting; this is both inclusive of Government and commercial contracting.

### **Pricing and gross margin targets.**

According to IBISWorld, the Defense Industry revenue is over \$240 Billion, and Industry profit is currently at \$24.9 Billion collectively.

### **Competitive Analysis and Industry Attractiveness.**

Utilizing the Porter (1980) Five Force model, the industry attractiveness is as follows based on the Industry Reports of Marketline and IBISWorld:

Intensity of Competitive Rivalry: Competitive Rivalry is high, with major defense contractors competing for high dollar contracts.

Threat of New Entrants: With high barriers to entry due to high capital intensity, government regulations, and established competitors, Threat of New Entrants is low at the moment.

Threat of Substitutes: Because there are virtually no products that can substitute defense articles, Threat of Substitutes are low.

Power of Suppliers: Supplier Power is moderate because there are many suppliers; competition amongst suppliers can reduce supplier power, but because of specified products and capabilities, some suppliers benefit from high supplier power.

Power of Buyers: If including the U.S. Government, Foreign Governments, other Defense Contractors, and Commercial Buyers, buyer power is moderate due to the fact that Defense Contractors like Boeing have some large segments that are commercial. However, since this study focuses on U.S. Government to Defense

Industry relations and since the U.S. Government has the regulatory capability to prevent contractors from selling internationally, such buyer power is high. Also, the Government's capability to access financial and technical data, authority to audit, ability to limit specifications for international sales, and other regulatory powers per the FAR and ITAR, the U.S. Government as a buyer has very high buyer power.

Industry Attractiveness: According to Wernerfelt & Montgomery (1986), an attractive industry is one that has high growth and high profitability. Based on analysis of the Five Force Model, overall the Defense Industry is moderately attractive. According to Marketline (2015), profitability and growth are only moderate, thus based on Wernerfelt & Montgomery (1986), this would be considered a moderately attractive industry.

### **Overview of the Arms Manufacturing Market.**

#### ***Primary Customers.***

According to Marketline (2015), the primary customers of the Defense Industry include the United States Government, Foreign Governments, Defense Contractors, State Governments, Local Governments, and other Commercial markets. Primarily, the United States Government is the largest customer in the U.S. Defense Industry.

### ***Customer Requirements.***

The United States Government primarily conducts its defense acquisition from the Department of Defense in which the Defense Department procures military technology, missile defense systems, aerospace technology, cyberspace technology, and various other defense products and services.

### ***Customer Size.***

According to the CIA World Factbook (2016), the United States Government spends more in defense spending than all other nations combined by dollar amount; the Government is also currently the 9<sup>th</sup> nation that spends the most on defense in respect in percentage to its Gross Domestic Product (GDP).

According to the Small Business Administration (2017), the United States Government is the largest customer in the world. The United States Government spends over 20 percent of its budget on Defense Spending. With respect to Foreign Military Sales (FMS), the United States Government is responsible for procurement of military products and services from U.S. Defense Contractors and sales to the Foreign Military itself. While Defense Contractors have increased their international military sales, a large part of these sales is FMS, and thus, despite selling to other countries, the U.S. Government is still the primary customer.

### ***Market Segments.***

According to Marketline (2015), the arms market breaks into multiple segments. Primarily the Arms Market is broken into two segments, Defense and

Aerospace. These segments are further broken down by product types, which include fighter jets, sensors, missiles, space systems, military vehicles, small arms, missile targeting defense, and cyber warfare.

### ***Market Share.***

As mentioned, the size of the market is over \$400 Billion. Lockheed Martin, Boeing, and Northrop Grumman have some of the largest market shares when taking into account defense sales only. Lockheed Martin is the largest Defense Contractor in the world by defense sales. However, Boeing is a larger enterprise than Lockheed Martin if including commercial sales into the portfolio.

### **Organizational Analysis of Lockheed Martin.**

#### ***Summary.***

According to the Lockheed Martin (2016) 10-K report, Lockheed Martin is a leading U.S. Defense Contractor. Lockheed Martin has sales in both domestic and international markets and sells primarily military products and services, however, the company does sell some commercial products and services.

#### ***Company description.***

According to the Lockheed Martin (2016) 10-K report filed with the Securities and Exchange Commission on December 31, 2016, Lockheed Martin states that they are a global security and aerospace enterprise focusing on research, design, development, manufacturing, integration, and sustainment of advanced technological products and services. Over 78 percent of sales are from the United

States Government. The remaining 21 percent of military sales includes Foreign Military Sales (FMS) and Direct Commercial Sales (DCS). Because FMS sales are contracted to the U.S. Government, the Government is still the buyer in these cases. Thus, it is anticipated that Lockheed Martin's sales to the U.S. government far exceeds 78 percent. The remaining 1 percent of sales are commercial products sold both in the United States and internationally.

Lockheed Martin Corporation during the publication of their 2015 10-K report was broken into five business areas; these included Aeronautics (Aero), Missiles and Fire Control (MFC), Mission Systems and Training (MST), Information Systems & Global Solutions (IS&GS), and Space Systems Company (SSC). During late 2015 and early 2016, Lockheed Martin divested the IS&GS business area, which was acquired by Leidos, around the same time Lockheed Martin acquired Sikorsky from United Technologies Corporation. Lockheed Martin incorporated the Sikorsky acquisition under the MST business area and had since rebranded MST to become Rotary Mission Systems (RMS).

### ***Organization and Management.***

Lockheed Martin is currently a publicly traded company listed on the New York Stock Exchange. As of 2017, the company is currently broken into four business areas: Aero, MFC, RMS, and SSC. In addition, the company owns multiple subsidiaries and has ownership in various joint ventures. The company's executive officers, as of 2016, include: Marillyn Hewson (CEO, President, and

Chairman), Richard Ambrose (Executive Vice President of Space Systems), Dale Bennett (Executive Vice President of Rotary Mission Systems), Orlando Carvalho (Executive Vice President of Aeronautics), Richard Edwards (Executive Vice President of Missiles and Fire Control), Bruce Tanner (CFO), and Brian Colan (CAO).

***Key Products and Services.***

As mentioned, Lockheed Martin specializes in military products and services that include fighter jets, missile defense, cybersecurity, space technology, and armored vehicles. Based on the company's (2016) 10-K report, its signature products and services include the F-22 Raptor, F-35 Lightning II Joint Strike Fighter, C-130 Hercules, F-16 Fighting Falcon, C-5M Super Galaxy, and various sustainment services.

***Financial Status.***

According to Yahoo Finance (2017), Lockheed Martin had a Net Profit of over \$3.6 Billion in 2016. As of February 5, 2017, the company had a market capitalization of \$73.74 Billion. Also, the company had a capital structure of 93.7 percent debt to 6.3 percent equity. Finally, the company had current cash on demand of \$1.09 Billion.

## **Organizational Analysis of Boeing.**

### ***Summary.***

According to the Boeing (2016) 10-K report, Boeing is a U.S. Defense Contractor with sales in both domestic and international markets and sells commercial, military, and capital investment.

### ***Company description.***

The Boeing Company (Boeing) is both a commercial enterprise and a large defense contractor. According to the Boeing (2016) 10-K report, the company is known for the sales of its commercial aircraft, military aircraft, space technology, and global services technologies. Over 64 percent of the company's sales are with the United States Department of Defense. The remaining 36 percent include Foreign Military Sales, Direct Commercial Sales, and Commercial Sales. Just as the case with Lockheed Martin, Foreign Military Sales can still be considered sales with the Department of Defense since the Government is the immediate buyer before the foreign government.

Boeing operates in five different business segments, which include Commercial Aircrafts, Boeing Military Aircraft (BMA), Network & Space Systems (N&SS), Global Services & Support (GS&S), and Boeing Capital (BCC).

### ***Organization and Management.***

Boeing is currently a publicly traded company listed on the New York Stock Exchange. As of 2017, the company is currently broken into five business

segments: Commercial Aircraft, BMA, N&SS, GS&S, and BCC. It should be noted that BMA, N&SS, and GS&S serve under the Defense, Space & Security (BDS) business area. In addition, the company owns multiple subsidiaries and has ownership in various joint ventures. The company's current executive officers include: Dennis A. Muilenburg (CEO, President, and Chairman), Leanne G. Caret (Executive Vice President of Defense, Space & Security), Kevin G. McAllister (Executive Vice President of Commercial Airplanes), Tim Myers (President of the Boeing Capital Segment) and Gregory D. Smith (CFO).

#### ***Key Products and Services.***

As mentioned, Boeing specializes in both military and commercial products and services that include fighter jets, commercial aircraft, financial services, space technology, and armored vehicles. Based on the company's (2016) 10-K report, its signature products and services include the 787 Dreamliner, F/A-18E/F Super Hornet, AH-64 Apache Helicopter, space rocket technologies, 747 Aircraft, and various services.

#### ***Financial Status.***

According to Yahoo Finance (2017), Boeing had a Net Profit of over \$4.895 Billion in 2016. As of February 21, 2017, the company had a market capitalization of \$105.78 Billion. Also, the company has a capital structure of 99.09 percent debt to 0.91 percent equity. According to Harris and Raviv (1991), a capital structure like Boeing's would provide the most value to shareholders since debt is much

higher than equity and thus due to tax purposes and less shareholder dilution, such a capital structure would be valuable. However, such a capital structure with high debt to equity carries a very high risk of default (Brigham and Ehrhardt, 2015). Finally, the company had current cash on demand of \$8.801 Billion.

### **Organizational Analysis of Northrop Grumman.**

#### ***Summary.***

According to the Northrop Grumman (2017) 10-K report, Northrop Grumman is a U.S. defense and global security company with sales in both domestic and international markets and sells mostly military products and services with minor commercial sales.

#### ***Company Description.***

Northrop Grumman is a major defense contractor selling primarily to the United States Government, but also sells to state, local, and foreign governments. In addition, the company has only a small portion of commercial sales. According to Northrop Grumman's (2017) 10-K report, the company is known for sales of defense products and services such as the B-2 Spirit Bomber, B-21 Raider, space technology, sensors, cybersecurity, autonomous systems, manned aircraft fighters, and sustainment services. Northrop Grumman has over 84 percent of sales to the United States Government; this is not including Foreign Military Sales, which still will be through the United States Government and then sold to the foreign entity. The remaining sales include Direct Commercial Sales and commercial sales.

Northrop Grumman has three business units, which include Aerospace Systems, Mission Systems, and Technology Services. In addition to the above-mentioned business units, Northrop Grumman also has various subsidiaries.

***Organization and Management.***

Northrop Grumman is currently a publicly traded company listed on the New York Stock Exchange. As mentioned, as of 2017, the company is currently broken into three business units: Aerospace Systems, Mission Systems, and Technology Services. The company's current executive officers include: Wesley G. Bush (CEO, President, and Chairman), Thomas E. Vice (Corporate Vice President and President, Aerospace Systems Sector), Kathy J. Warden (Corporate Vice President and President, Mission Systems Sector) and Kenneth L. Bedingfield (CFO).

***Key Products and Services.***

Based on the Northrop Grumman's (2017) 10-K report, the company mostly sells military technology including fighter jets, bombers, cybersecurity, space technology, and autonomous systems. Northrop Grumman also supports sustainment services, radar systems, and components from other major weapon systems such as the F-35 Joint Strike Fighter. Finally, the company also specializes in both missiles and missile defense technologies.

***Financial Status.***

According to Yahoo Finance (2017), Northrop Grumman had a Net Profit of over \$2.20 Billion. As of February 26, 2017, the company had a market capitalization of \$42.79 Billion. In addition, the company has a capital structure of 79.47 percent debt to 20.53 percent equity. Finally, the company has current cash on demand of \$2.54 Billion.

## **Appendix D**

### **Perceptions of the Respondents**

Below is a layout of the perceptions of the respondents and how the survey responses were measured prior to data collection. These perceptions are based on the survey questions and the potential responses a participant can make.

The perceptions were based on a before and after measured outcome comparison. Perceptions of the respondents were based on before Better Buying Power's implementation and after its implementation to make a comparison.

#### **Perceived Collaboration.**

- Political Influence (When a respondent favors "After" as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Complementary Products (When a respondent favors "After" as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Mergers and Acquisitions (When a respondent favors "After" as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- General Competitive Collaboration (When a respondent favors "After" as a Likert response, this appears to indicate that BBP has led to an increase in this category.)

- Impact on Government Decision making (The intent of this category was to investigate, based on an open-ended response, the level of impact on Government Decision making based on BBP. Responses showing indication of increased influence indicate that BBP has had an impact)

**Perceived Contract Costs.**

- Contract Costs (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Timelines (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Streamlined Government Contracting process (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Government Contracting process efficiency (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- General impacted costs (In this open-ended item, the intent was to examine what costs, as well as other categories, have been impacted as a result of BBP.)

**Innovation.**

- Research and Development (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Innovation (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Developmental Contracts (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Faster Access to Technology (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Examples of Innovation (In this open-ended item, the intent was to examine other examples of innovation.)

**Commercial Diversification.**

- Exit the Arms Market (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Enter into Commercial Contracts (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)

- Dual-use Technologies (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Entering the Arms Market (When a respondent favors “After” as a Likert response, this appears to indicate that BBP has led to an increase in this category.)
- Commercial Investments (In this open-ended item, the intent was to examine other examples of commercial investment.)

## Appendix E

### Defense Acquisition Reform Survey

#### Study on Better Buying Power's Impact on the U.S. Defense Industry

##### *Overview*

Thank you for agreeing to take part in this study. The purpose of this study is to examine the effects of acquisition reform within the Defense Industry and to better understand how these impacts have influenced costs within the Government contracting process and how the Defense Industry has responded to these changes. Your responses to this survey can assist this study in investigating the impacts of Better Buying Power. To better assist in answering the below survey questions, common definitions have been provided below for reference. Please answer all of the questions to the best of your ability.

Participation is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Your responses will assist in better understanding the impacts of U.S. Government defense acquisition reform (BBP). **Please refrain from divulging U.S.G. classified, foreign government classified, import/export controlled, proprietary, competition sensitive, personal sensitive, official use only, or otherwise sensitive information in**

your responses.

For any general questions or concerns, please contact the following:

Edgar Quinones

Principal Investigator

Phone: 407-288-3711

Email: equinones2015@my.fit.edu

For questions regarding your rights regarding participation in this research, please contact the following:

Institutional Review Board (IRB) Contact Information:

Dr. Lisa Steelman

IRB Chairperson

Phone: 321-674-7316

Emails: lsteelma@fit.edu or FIT\_IRB@fit.edu

**Common Definitions:**

**Acquisition Reform:** The series of Government policy changes intended to change the buying process.

**Better Buying Power (BBP):** A form of acquisition reform intended to: achieve affordable programs, control costs, incentivize productivity and innovation, reduce waste, promote competition, improve the acquisition process, and provide better training of Government employees.

**Competition:** The participants (or incumbents) within the Defense Industry competing for market share; the individual companies that make up the Defense Industry.

**Competitive Collaboration:** The active engagement between competitors within the Defense Industry to engage in co-operation, rather than just competition. Examples include joint-ventures, complementary products and services, teaming agreements, influencing customer decision making, and participation in trade associations.

**Transaction Costs (Contract Costs):** The costs associated with the contractual arrangement between the Government and the Defense Industry, the costs associated with the contract process itself. Note, contracts costs are inclusive of costs within the contracting process itself, this is not inclusive of program costs for selling products and services.

## Survey Questions

### Pre-Screen Questions

1. Please confirm that you consent to take part in this study, note that your identity will remain anonymous:

- I consent to take part in this study
- I do not consent to take part in this study.

2. Please note that this survey is open to the following individuals who are:

- Currently or previously a U.S. Defense Industry or U.S. Government employee
- A member of the defense acquisition process (i.e., Contracts, Legal, Procurement, Finance, Business Development, Program Management, and etc.)
- A member of NCMA, NDIA, or both.
- Familiar with Better Buying Power (BBP) and Acquisition Reform

Before proceeding, please confirm that you meet the above criteria:

- I confirm that I meet the above criteria.
- I do not meet the above criteria.

3. Please confirm if you are a member of NCMA or NDIA:

- I am a member of NCMA
- I am a member of NDIA
- I am a member of Both

I am a \_\_\_\_\_.

4. I am a \_\_\_\_\_.

- U.S. Department of Defense Employee.
- U.S. Defense Contractor Employee
- Other (please specify)

5. Approximately how long have you been employed in your current position?

- 0-2 Years
- 3-5 Years
- 6-8 Years
- Greater than 8 Years

6. How familiar are you with Acquisition Reform?

- Extremely familiar
- Very familiar
- Somewhat familiar
- Not so familiar
- Not at all familiar

7. How familiar are you with Better Buying Power?

- Extremely familiar
- Very familiar

- Somewhat familiar
- Not so familiar
- Not at all familiar

8. Irrespective of my opinion on Better Buying Power (BBP), I believe BBP has been successful in what it has stated it has intended to do. See definition of BBP above or view the following link for more info on BBP: <http://bbp.dau.mil/>

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

Please explain.

9. In regards to Better Buying Power, I feel that I am \_\_\_\_\_ in making an informative assessment of its impacts to the Defense Industry based on my experience with the program.

- Extremely confident
- Very confident

- Somewhat confident
- Not so confident
- Not at all confident

### **Hypothesis 1 Questions**

10. Defense Industry **investments** in **political influence** within the U.S.

Government has been higher **AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

11. Defense contractors **engaging in collaboration** in the form of **complementary products and services** was higher **AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree

- Somewhat disagree
- Disagree
- Strongly Disagree

12. Defense contractors **engaging in collaboration** in the form of **mergers and acquisitions** was higher **AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

13. Overall **competitive collaboration** was higher **AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree

- Disagree
- Strongly Disagree

14. Overall, how has Better Buying Power influenced Defense Industry **political investments, sales of complementary products/services, mergers and acquisitions, and overall competitive collaboration?**



### Hypothesis 2 Questions

15. **Transaction (Contract) Costs** within the **Government Contracting process** in the Defense Industry has been higher **AFTER** Better Buying Power's implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

16. The **timeliness** within the **Government Contracting process** has been higher **AFTER** Better Buying Power's implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

17. The **Government Contracting process** has been less **streamlined** **AFTER**

**Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

18. **Efficiency** within the **Government Contracting process** has been lower

**AFTER** **Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

19. Overall, based on your experience with acquisition reform, how has Better Buying Power impacted the Government contracting process in the form of **timeliness, efficiency, overall contracting costs, and streamlining the acquisition process for defense products and services?**



### Hypothesis 3 Questions

20. Defense contractors had a **higher incentive to engage in Research and Development AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree

- Somewhat disagree
- Disagree
- Strongly Disagree

21. **Innovation** within the Defense Industry has been higher **AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

22. Defense contractors had a **higher incentive** to engage in **developmental contracts AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree

- Disagree
- Strongly Disagree

23. The U.S. Military had **faster access to newer defense technology AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

24. Overall, what do you see the impact Better Buying Power has had on in **investing in R&D, innovation, developmental contracts, or creation of new defense technologies** within the Defense Industry?



#### Hypothesis 4 Questions

25. Defense contractors are **more incentivized to exit the arms market AFTER**

**Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

26. Defense contractors were more likely to **enter into commercial markets**

**AFTER Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

27. Defense contractors are more likely to develop **dual-use technologies** (defense and commercial) as a means of diversifying their products and services **AFTER**

**Better Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

28. There have been fewer companies entering the Arms Market **AFTER Better**

**Buying Power's** implementation.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

29. Overall, how has Better Buying Power influenced diversification? Such as defense contractors **exiting the arms market, expanding into commercial markets, developing dual-use technologies, and the impact on the number of Defense Industry incumbents, such as new competitors or small business participation.**



## Appendix F

Appendix F is a compilation of the raw data from the open-ended portions of the survey found in Appendix E.

### Question 8

Coded Themes and Elements							
Themes	acquisition	acquisition professionals	change	contract	costs	defense	government
Elements	acquisition processes	actionable things acquisition professionals	little change	contract costs overruns	administrative costs	defense companies	government acquisition professionals
Elements	acquisition programs	government acquisition professionals	major change	contracting environment	contract costs overruns	typical defense procurements	government acquisitions
Elements	actionable things acquisition professionals	Lacking FAR changes	much change	contracting officer incentives	decreasing costs	Sustainment Costs rising	government contracts
Elements	government acquisition professionals		Well intended	contracts community	lowering costs		Needed changes
Elements	government acquisitions		Difficult Execution	government contracts	sustainment costs		
Elements	Unclear Goals		Needs improvement	incentive type contracts	Lower Profits		
Elements	OTA increases			multiple award contract solutions	Waste in contracting		

Coded Themes and Elements							
Themes	incentives	industry	level	little change	management	process	productivity
Elements	contracting officer incentives	industry investment	execution level	little change	disciplined requirements management	acquisition process	increasing productivity
Elements	incentive type contracts	industry perspective	working level	Little action	great program managers	external process	productivity growth

Coded Themes and Elements							
Themes	programs	regulation	reporting	requirements	solutions	trend	value
Elements	acquisition programs	burdensome regulations	annual reports	disciplined requirements management	multiple award contract solutions	negative trend	value quality
Elements	affordable programs	excessive regulation	over-enthusiastic reporting	far requirements	value solutions	recent trend	value solutions
Elements	completing programs	Increased regulation	Unclear goals	noncomplex requirements		Long-run issues	Working
Elements	great program managers	Difficult to Change	Metrics needed	Constant changes			Work Force
Elements	programs teams						Working Level
Elements	successful programs						

## Question 14

Coded Themes and Elements						
Themes	acquisition	acquisition process	appropriation	budget	business	buying power
Elements	acquisition changes	entire acquisition process	appropriate training	defense budgets	business acumen	buying power
Elements	acquisition climate	streamlined acquisition process	appropriation acts	preparing budget	business perspective	buying power initiative
Elements	acquisition professionals	Negligible impact		change	contractor business decisions	next initiative
Elements	acquisition reform				defense businesses	acquisition changes
Elements	acquisition world				large businesses	big change
Elements	entire acquisition process				much business	influencing changes
Elements	streamlined acquisition process				small business viability	little change
Elements	tailoring acquisition standards					significant change
Elements	understaffed acquisition corps					OTA usage

Coded Themes and Elements						
Themes	communication	companies	competitive collaboration	consolidation	contractors	corporate
Elements	government communication	defense companies	competitive collaboration	corporate consolidation	contractor business decisions	corporate behaviour
Elements	increasing communication	Small business buyout	Consolidation	enterprise consolidation	large contractors	corporate consolidation
Elements	Communication Changes needed	Increased mergers	Reduced competition	Higher Collaboration	Larger firms acquiring SBs	incumbent corporations

Coded Themes and Elements						
Themes	decisions	defense	direct	enterprise	government	impact
Elements	contractor business decisions	defense budgets	broad policy directive	defense enterprises	government communication	great impact
Elements	industry decisions	defense businesses	direct result	enterprise consolidation	government program managers	negligible impact
Elements	making investment decisions	defense companies	cost	increasing communication	government side	real impact
Elements		defense enterprises	controlling cost growth	increasing focus	increasing	
Elements		defense industry base	cost principles	significant increase	increased industry influence	
Elements		large defense	cost savings		increasing awareness	

Coded Themes and Elements						
Themes	industry	influence	investments	joint ventures	markets	opportunities
Elements	defense industry base	collective influence	making investment decisions	joint ventures	different markets	ofoc opportunities
Elements	increased industry influence	increased industry influence	political investments	Teaming agreements	marketing strategy	promotion opportunities
Elements	industry decisions	influencing changes	political pac investments	Mergers	various markets	partner
Elements	industry perspective	major influencer		Acquisitions	Government Behavior	industrial partners
Elements	large industry partner	substantial influence		Workshare		large industry partner
Elements	military clothing industry			Consortiums		

Coded Themes and Elements						
Themes	perspective	regulations	right	sequestration	socioeconomic	solutions
Elements	business perspective	anti-trust regulations	data rights submissions	implementing sequestration	socioeconomic objectives	breed solution
Elements	industry perspective	restrictive regulations	right solutions	sequestration vendors	socioeconomic status	finding solutions
Elements		underlying regulation	Intellectual Property issues	Political pressure	Changes in SB segmentation	partial solutions
Elements		Budget changes		Administration changes		right solutions
Elements						total solution

## Question 19

Coded Themes and Elements							
Themes	acquisition	acquisition process	contracting	contracting process	costs	government	process
Elements	acquisition orgs	acquisition process	costly contracts	contracting process	administrative costs	almost government shutdowns	acquisition process
Elements	acquisition process	Costly Changes	contract award	OTAs as a contracting vehicle	certified cost	government acquisition command	contracting process
Elements	acquisition strategy	Theoretical Not practical	contract types	programs	contracting costs	government contracting	extra processes
Elements	acquisition today		contracting costs	large programs	on-paper cost creep	government labs	inefficient process
Elements	acquisition workforce		contracting officers	overall socioeconomic programs	overall contracting costs		procurement process
Elements	government acquisition command		contracting process	program managers	tripled contracting costs		production process
Elements	large acquisitions		contracting shops	program outcomes			traditional process
Elements	making acquisition		contracting squadron	sustainable programs			
Elements	streamlining acquisition		effective contracting vehicle	tripled contracting costs			
Elements	Inefficient		far contracts				
Elements	Less streamlined		government contracting				
Elements	Less improved		managing contracts				
Elements			overall contracting costs				
Elements			quickly contracts				

## Question 24

Coded Themes and Elements					
Themes	acquisition	change	contractor	contracts	costs
Elements	acquisition commands	changing environment	contractor costs	Lengthy contracts	contracting costs
Elements	acquisition community	major change	defense contractor	burdensome contract types	increasing costs
Elements	acquisition plans	noticeable changes	prime contractor costs	contract planning phase	overall cost
Elements	government acquisition authorities	real change	Less options	contracting costs	Costly innovation
Elements	Increased utilization of OTAs.	technology changes	Sole source	contracting officers	Increased costs low incentives
Elements	Less innovation Under BBP	Slowed innovation	Less SB Participation	contracts publications	developmental contracts
Elements	Industry unwilling to invest	Less innovation	defense section	developmental contracts	developmental contracts
Elements	Acquisition reform has decreased incentives	Stagnant innovation	defense technology	government contracts	Less development
Elements	Too risky	Not incentivized	Military At risk	operational contracting office	defense contractor
Elements	defense	Reduction in R&D	Innovation Threatened	rapid response contracts	defense industry

Coded Themes and Elements					
Themes	funding	government	industry	innovation	technology
Elements	development funding	government acquisition authorities	defense industry	innovation purchases	defense technology
Elements	government funds	government contracts	industry willingness	innovation trends	disruptive technologies
Elements	significant funding	government funds	leverage industry	true innovation needed	technological perspective
Elements	Lower funding	government team	private industry	Less innovation	technology changes
Elements	Inadequate	Unwilling to allow disrupters	technology industry	R&D funding needed	technology industry

### Question 29

Coded Themes and Elements				
Themes	base	business	companies	contractors
Elements	industrial base	business climate	defense companies	contractor entry
Elements	profitable business base	business structure	diversified company	defense contractors
Elements	supplier base	commercial business	large companies	dod contractors
Elements	Small business numbers	defense business	large defense companies	large defense contractors
Elements	Decreased small business participation	large business	sb companies	prime contractors
Elements	Space business growth	profitable business base	service companies	small business contractors
Elements	Commercial growth	risky business	defense contracting	Difficult on small businesses
Elements	contracts	small business contractors	government contracts	Non-conventional contractors
Elements	class contracts	small business participation	services contracts	
Elements		small business subcontractors	set aside contracts	
Elements		space business	Increased consolidation	
Elements		viable business	OTA utilization	

Coded Themes and Elements				
Themes	defense	defense contractors	dual use	industry
Elements	defense acquisition authority customer	defense contractors	dual use tech	defense industry
Elements	defense budgets	large defense contractors	dual use technologies	defense industry incumbents
Elements	defense business	Less small companies	dual use technologies	industry consolidations
Elements	defense companies	Less competition	niche technologies	industry partners
Elements	defense contracting	Shift to commercial	Disruptive technologies	Small businesses unwilling to participate
Elements	defense contractors	Less defense companies		market
Elements	defense firms	Status quo of Large companies		arms market
Elements	defense industry			commercial markets
Elements	defense industry incumbents			conventional arms market
Elements	defense market decrease			defense market changes
Elements	defense markets			defense markets
Elements	defense sales			federal market
Elements	defense sector			government market
Elements	defense spending			private marketability
Elements	large defense companies			
Elements	large defense contractors			