ACQUISITION RESEARCH PROGRAM SPONSORED REPORT SERIES

Collaboration Practices: An Analysis Within an Army Acquisition Program Office

20 March 2014

LTC Joseph R. Blanton, USA

Thesis Advisors: Dr. Gail F. Thomas, Associate Professor
Brad Naegle, Senior Lecturer

Graduate School of Business & Public Policy

Naval Postgraduate School

Approved for public release; distribution is unlimited.

Prepared for the Naval Postgraduate School, Monterey, CA 93943.

ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
NAVAL POSTGRADUATE SCHOOL

ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
NAVAL POSTGRADUATE SCHOOL

Abstract

This project focuses on the complexity of stakeholder collaboration within the defense acquisition environment. An Army program office was identified as a case study because of a recently approved acquisition strategy by the Army Acquisition Executive. In coordination with this program office, eight key stakeholders were identified as being closely involved with the successful strategy decision. These individuals were given a survey to measure their collaborative capacity. Then, the participants were interviewed and asked to explain the impact and role that collaboration played in successfully constructing and staffing the acquisition strategy. Analyses revealed how effective collaboration was critical to achieving the successful high-level acquisition decision and revealed how the collaborative relationships changed over the events leading to the decision. The research concluded that developing and fostering effective collaboration with the stakeholder community contributes immensely to the success of the acquisition strategy and that the changing collaborative relationships can and should be supported with different levels of information.

Keywords: Stakeholder Collaboration, Collaborative Capacity, Stakeholder Community, Defense Acquisition

THIS PAGE INTENTIONALLY LEFT BLANK

Acknowledgments

I would like to thank my wife, Jackie, for her support and resilience during this research project and along our Army journey together. To my advisors, Gail Thomas and Brad Naegle, your patience and commitment to this project kept me focused throughout this challenging and rewarding endeavor. I'd like to thank the participants and the program office for the time and opportunity to conduct this effort.

THIS PAGE INTENTIONALLY LEFT BLANK

About the Author

LTC Joe Blanton was born in Spartanburg, SC. He was commissioned as an infantry officer upon graduation from the University of South Carolina. After serving multiple operational infantry assignments in light, airborne, and Ranger units, he was assessed into the Army Acquisition Corps in 2009.

His prior operational assignments include serving with the 25th Infantry Division, 75th Ranger Regiment, and the 82nd Airborne Division, as well as with the United States Army Special Operations Command. LTC Blanton's prior acquisition assignments were in PEO Intelligence, Electronic Warfare and Sensors, as well PEO Special Operations Forces.

LTC Blanton earned a Bachelor of Arts degree in English from the University of South Carolina in 1997. He is currently enrolled in the Master of Business Administration program at the Naval Postgraduate School, Monterey, CA. Upon graduation he will assume responsibility as Product Manager Aircraft Survivability Equipment (Sensors).

LTC Blanton's personal military awards and decorations include, most notably, the Bronze Star Medal with one oak leaf cluster, the Meritorious Service Medal with three oak leaf clusters, the Master Parachutist's Badge, the Combat Infantryman's Badge, and the Ranger Tab. While LTC Blanton was an infantry company commander with the 82nd Airborne Division, his company was awarded the Valorous Unit Award (second highest unit award) for combat action in Mosul, Iraq.

LTC Blanton is married to the former Jackie Vietri of Long Island, NY. They have two children, Ethan and Wyatt.

THIS PAGE INTENTIONALLY LEFT BLANK

NPS-PM-14-008

ACQUISITION RESEARCH PROGRAM SPONSORED REPORT SERIES

Collaboration Practices: An Analysis Within an Army Acquisition Program Office

20 March 2014

LTC Joseph R. Blanton, USA

Thesis Advisors: Dr. Gail F. Thomas, Associate Professor
Brad R. Naegle, Senior Lecturer

Graduate School of Business & Public Policy

Naval Postgraduate School

Disclaimer: The views represented in this report are those of the author and do not reflect the official policy position of the Navy, the Department of Defense, or the federal government.

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

List of Figures

THIS PAGE INTENTIONALLY LEFT BLANK

List of Tables

THIS PAGE INTENTIONALLY LEFT BLANK

List of Acronyms and Abbreviations

AAE	Army Acquisition Executive
BCA	business case analysis
CAM	Collaborative Activity Matrix
CDD	Capability Development Document
CJCS	Chairman of the Joint Chiefs of Staff
CPD	Capability Production Document
DAS	Defense Acquisition System
DASM	Deputy for Acquisition and Systems Management
DoD	Department of Defense
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
GAO	Government Accountability Office
ICC	Inter-Organizational Collaborative Capacity Model
ICD	Initial Capability Document
JCIDS	Joint Capabilities Integration and Development System
JROC	Joint Requirements Oversight Council
MAIS	Major Automated Information System
MSA	materiel solution analysis
NATO	North Atlantic Treaty Organization
NPS	Naval Postgraduate School
PEO	program executive officer
PM	program manager
POM	program objective memorandum
PPBE	planning, programming, budgeting, and execution
RMD	resource management decision

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

A. PROBLEM STATEMENT

Successful program managers (PMs) within the Department of Defense (DoD) rely on individuals from various areas of expertise outside of the program office. A PM must identify these individuals and establish strong partnerships early to successfully deliver a high-quality, cost-effective product to the military service. Cooperation among empowered representatives from the external supporting organizations is an accepted practice within the acquisition profession and an important aspect to the profession (Office of the Secretary of Defense [OSD], 1998). However, the collaboration among those individuals is not as clearly understood. Understanding the differences between cooperation and collaboration in the context of DoD partnerships is a complex undertaking. Collaboration entails higher levels of creativity, resources, and commitment by all participants. Few researchers have written about successful collaboration among participants supporting a program office within the acquisition environment. My study examines activities performed by key players in a program office that led to a favorable acquisition strategy decision by the Army Acquisition Executive.

Research has shown that information-sharing and managing relationships among interested participants is not enough to ensure successful outcomes in the highly complex environment of defense acquisitions (Government Accountability Office [GAO], 2013). Collaboration among experts to determine creative solutions to challenging problems is a concept that is embraced throughout academia and the business world (Huxham, 1996) and is considered important within the government and the DoD. Acquisition professionals could benefit from understanding specific enablers and barriers to collaboration.

B. PURPOSE OF THIS STUDY

This study focuses on the activities among key individuals in the acquisition workforce who, given a complex problem, collaborate to achieve success. The purpose of this study is to identify perspectives on collaboration among several actors in a program management office, as well as to determine patterns of collaborative practices that might be applied to other programmatic efforts.

C. RESEARCH QUESTIONS AND METHODOLOGY

Three questions were created to guide this research project:

1. What practices contribute to building collaborative capacity within an Army acquisition program office?

2. What factors facilitated or inhibited collaboration for a successful project?

3. How do collaborative practices, related to critical events involving stakeholders, change over time?

My study builds on research that was conducted at the Naval Postgraduate School (NPS) by Hocevar, Jansen, and Thomas (2006). Their early studies focused on collaboration among professionals in the U.S. Department of Homeland Security and considered the various enablers and inhibitors to collaboration. NPS faculty and students have continued to perform research related to the work of Hocevar et al. (2006), with projects focusing specifically on defense acquisition with the DoD. This study draws from these previous collaborative capacity research projects (Bauer & Meeker, 2011; Hocevar et al., 2006; Kirshman & LaPorte, 2008; Thomas, Jansen, Hocevar, & Rendon, 2007). My research narrows the focus to a service-specific program office and the collaborative practices among key military members.

For this project, I used a survey to gather quantitative data about the enablers and barriers of collaboration and, later, semi-structured interview questions to better understand the collaborative processes employed by various PM stakeholders. I conducted the survey and interviews with eight individuals who participated in a successful multiservice acquisition strategy (Army and Navy) approved by the Army Acquisition Executive in 2013. Stakeholder collaboration provides essential information for the PM at the critical points of the management process. This project uses the inter-organizational collaborative capacity (ICC) model created by Hocevar et al. (2006).

The survey was given to the participants one to two days before the interview but was not framed with the same successful acquisition strategy decision. The volunteers were simply asked to assess the collaborative practices of the stakeholder community. The purpose of the survey was to assess the general collaborative capacity of the program office that worked on the acquisition strategy. Before administering the survey to the program office, I pilot tested the survey with two groups of students: one group from the defense acquisition community with a wide range of experience, and the other group consisting of military service members who served in various staff positions at Headquarters, Department of the Army. The results from the pilot surveys helped me to design the final survey for ease of understanding and relevance. I used the ICC model to assess the interview data. Comparisons of the two sources of data to identify effective programmatic processes are the basis for the final report.

I framed the interview to address a recent decision by the Army Acquisition Executive in support of a multi-service acquisition strategy. During the interview, I asked questions that centered on the processes that the stakeholders used during

the time preceding the decision. The interviews were recorded for accuracy and later transcribed. The transcriptions were then coded using the domains and factors in the ICC model. Various management theories were also applied to identify themes. The results led to an understanding of the critical actions over the collaboration process that achieved the favorable outcome.

D. SIGNIFICANCE OF THE STUDY

This study captures the activities and practices followed by a group of stakeholders within and supporting a program office that led to a successful outcome. The analysis for this effort focuses on activity over a period of time and a series of key events. A longitudinal view of group collaborative activities results in a series of stakeholder collaboration principles. By applying these principles, PMs can more effectively manage the collaborative process. The research conducted at NPS thus far has looked at various government agencies and even the defense acquisition environment, but only for a single event, not over a period of time.

E. ORGANIZATION OF THE STUDY

Chapter I provides an overview and purpose for the study. Chapter II is the literature review, which provides the theoretical framework for this project. Chapter III is the background chapter intended to provide context for my research. This research is focused on activities within the DoD acquisition profession. In Chapter IV, I provide results from the study. Chapter V presents conclusions, recommendations, and areas for additional research.

THIS PAGE INTENTIONALLY LEFT BLANK

II. LITERATURE REVIEW

A. INTRODUCTION

In this chapter, I present various management theories to frame this study. Stakeholder theory explains why this management concept is important; interdependence theory explains the relationship between task complexity and management activities; boundary-spanning activities explain participant resourcefulness; and collaboration theories describe how a group of people can work together more effectively. Collectively, these theories are the underpinnings to this research and shape the analysis later in this report.

B. DEFINITIONS

In this study, I use several common terms, defined here:

> Boundary spanning—The exchange of information to (1) detect and bring into the organization information about changes in the environment and (2) send information into the environment that presents the organization in a favorable light. (Daft, 1998, p. 92)

> Collaboration—Any joint activity that is intended to produce more public value than could be produced when the organizations act alone. (GAO, 2005, para. 1)

> Collaborative capacity—The ability of organizations to enter into, develop, and sustain inter-organizational systems in pursuit of collective outcomes. (Hocevar et al., 2006, p. 256)

> Interdependence—The extent to which departments depend on each other for resources or material to accomplish their tasks. (Daft, 1998, p. 138)

> Stakeholder—Any group or individual who can affect or is affected by the achievement of the organization's objectives. (Freeman, 1984, p. 46)

C. STAKEHOLDER THEORY

Stakeholder theory was first introduced as a strategic management concept by Freeman (1984). His effort is viewed as the seminal work in this area of study. His theory revolutionized the strategic management discipline because he suggested a deliberate approach to identifying and managing key participants or stakeholders. His original model was a hub-and-spoke diagram. In the center was a box labelled *Firm*, and extending from the center in multiple directions were spokes connected to circles. Each circle represented a group from which stakeholders were located. Figure 1 is a generic example of Freeman's (1984) hub-and-spoke picture showing the relationship between a firm and associated stakeholders.
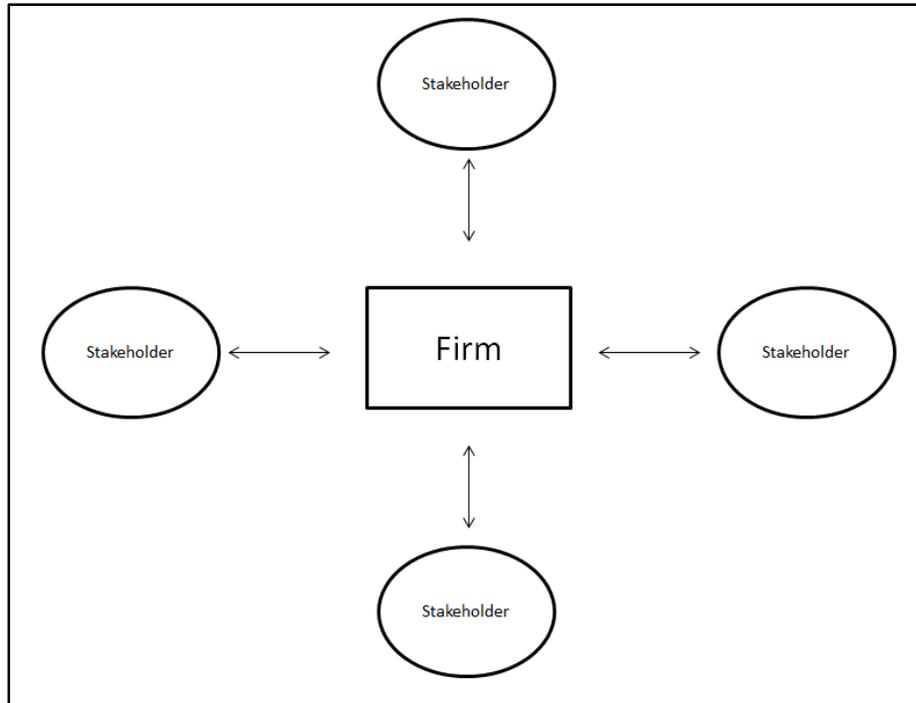
Figure 1.   An Adaptation of Freeman's Hub-and-Spoke Model
(Freeman, 1984, p. 55)

What is important about his model is the portrayal of relationships or connections between the firm and the stakeholders. This suggests reliance between the two entities.

Freeman (1984) suggested answering the following sample questions to help determine stakeholders and devise a management strategy:

1. Who are our current and potential stakeholders?

2. What are their interests/rights?

3. How does each stakeholder affect us (challenges and opportunities)?

4. How do we affect each stakeholder?

5. What assumption does our current strategy make about each important stakeholder?

6. What are the current "environmental variables" that affect us and our stakeholders?

7. How do we measure each of these variables and their impact on us and our stakeholders?

8. How do we keep score with our stakeholders? (p. 242)

According to Friedman and Miles (2006), Freeman considered the answers from these questions combined with observations of stakeholder past behavior and further categorized them into four areas relative to threat and cooperation: swing, offensive, defensive, and hold. These categories were based on "a stakeholder's potential for change and its relative power" (Friedman & Miles, 2006, p. 86). Freeman (1984) further suggested that each area has a corresponding strategy that would "change the rules," "exploit," "hold current position," or "defend" (p. 143). Figure 2 shows Freeman's model.
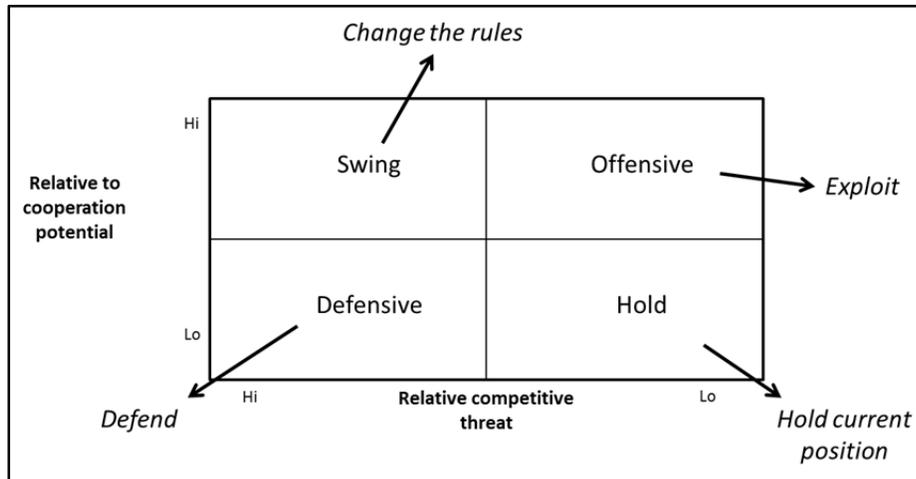
Figure 2.   Freeman's Model of Generic Stakeholder Strategies
(Freeman, 1984, p. 143)

One of the theories and accompanying models that emerged after Freeman's work was by Savage, Nix, Whitehead, and Blair (1991). Their theory takes the idea of stakeholder management further and suggests that stakeholders are dynamic and active and can move from supporting an organization to threatening it. Accordingly, a strategy must also be dynamic in maintaining positive relationships and avoiding negative ones. Savage et al. (1991) categorized stakeholders into four types: (1) supportive, (2) marginal, (3) non-supportive, and (4) mixed blessing. In addition, the theory suggested that for each type of stakeholder, there is a management approach that is most effective in maintaining or establishing positive relationships. The management approaches include the following:

- involve the supportive stakeholders,

- monitor the marginal stakeholders,

- defend the non-supportive stakeholders, and

- collaborate with the mixed blessing stakeholders.

The model explaining the Savage et al. (1991) theory frames the quadrant along two axes, as seen in Figure 3. The *y*-axis is labeled "potential for cooperation," and the *x*-axis is labeled "potential for threat" (Savage et al., 1991, p. 65).

	Potential for threat	
	High	Low
High	Stakeholder type 4 Mixed blessing Strategy: collaborate	Stakeholder type 1 Supportive Strategy: involve
Low	Stakeholder type 3 Non-supportive Strategy: defend	Stakeholder type 2 Marginal Strategy: monitor

Potential For Cooperation (y-axis label)

Figure 3. Model for Stakeholder Types and Strategies
(Savage et al., 1991, p. 65)

Clearly, as explained by Friedman and Miles (2006), the models are very similar, but they differ on the strategy for addressing Type 4 (Savage et al., 1991), or those in the swing category (Freeman, 1984). Freeman (1984) suggested changing the rules, while Savage et al. (1991) suggested collaboration. Although this difference may seem subtle, this is where it becomes important to understand the environment where the model is applied and the theory considered. Regarding the defense acquisition profession, the Savage et al. (1991) approach towards collaboration is most applicable.

For this project, I use an adaptation of the Savage et al. (1991) model. One distinction I make is with the stakeholder group considered most important. Savage et al. (1991) suggested that the Type 1 stakeholder is the most important and the "ideal type," citing "board of trustees, managers, and employees" as comprising Type 1 (Friedman & Miles, 2006, p. 88). However, I propose that Type 4 is the most important in affecting an outcome because that participant has the highest potential for cooperation or threat. In my project's view, I focus on the level of positive outcome as a result of the cooperation rather than the potential threat.

In the defense industry, the acquisition workforce has a shared goal: They want to provide the best possible product to the end user, the warfighter. Freeman (1984) used the term "relative competitive threat" (p. 143) in describing the environment in which the stakeholders operate and suggested the potential for an adversarial relationship among stakeholders. It is important for this study to make the distinction that the environment, while competitive, is not competing in the same

context as Freeman described. Therefore, it is not seen as adversarial. For example, a decision might be made to terminate a program because of high technical risk of the product under development. In light of stakeholder management, those decisions could be seen as a threat while the decision authority is not an adversary to the program. Identifying stakeholders and determining an appropriate management strategy is critical for this research project.

My project is focused on government activities where relationships are ideally not adversarial. Threat, as used by Freeman (1984) and Savage et al. (1991), has a different implication. The context for these stakeholder theories is typically a business setting with an adversarial dynamic. For example, a small business could be acquired by a larger competitor. In this sense, a threat stakeholder group could terminate a business. In the DoD, however, it is unlikely that one organization would be consumed by a stakeholder group. There are some important ideas from Freeman (1984) and Savage et al. (1991) that do apply.

One aspect that is transferable from the business environment is the idea that stakeholders are dynamic. A stakeholder that is currently fully supporting a program initiative should not be assumed to always support future endeavors (Friedman & Miles, 2006). With this project, I look at activities over time and consider the changes to stakeholder relations. That analysis is framed largely by the Savage et al. (1991) model.

D.   INTERDEPENDENCE THEORY

Thompson (1967) explained the relationships among organization type, communication, interdependence, location, and organizational processes. According to Thompson's theory, three types of interdependence exist: pooled, sequential, and reciprocal.

Pooled interdependence occurs when organizations have low reliance on outside organizations to perform a function. Because of the low reliance, there is little need for organizations to be collocated with a supporting agency. For example, consider a bank. A bank teller can process a transaction completely internally to the bank and does not need information or support from an outside source. Rules and processes enable the organization to operate independently, and therefore the management required is lower than the other types of interdependence (Daft, 1998).

Sequential interdependence is more complex in both process and management activities. One example of this type of interdependence is an assembly line, in which an operator is highly dependent on the preceding activity, and the succeeding activity is dependent on the operator. In this situation, there is coordination for the internal activity within a facility where workstations are reliant on one another in a parent–child relationship type of relationship. External reliance

exists on raw materials and shipping of finished goods. This is a forward-moving process, and scheduling, ordering, and shipping processes are a part of the managerial duties. In this case, more communication is needed as problems are managed and avoided (Daft, 1998).

Reciprocal interdependence is the third and most complex type. This type of interdependence is similar to the activity in a hospital where each patient must see different physicians depending on type of ailment. In some cases in a hospital, the doctors must work together or collaborate to achieve a proper diagnosis and treatment plans. Because of the nature of reciprocal interdependence, the environment is fluid and cannot be completely planned. As a result, teamwork and cross-communication is essential to managing each situation that arises (Daft, 1998). Table 1 provides a summary of Thompson's theory (Daft, 1998, p. 138).

Table 1.   Thompson's Interdependence Theory
(Daft, 1998, p. 138)

Form of Interdependence	Demands on horizontal Communication, decision making	Type of Coordination required	Priority for Locating units Close together
Pooled (Bank)	Low communication	Standardization, Rules, Procedure	Low
Sequential (Assembly Line)	Medium communication	Plans, Schedules, Feedback	Medium
Reciprocal (hospital)	High communication	Mutual adjustment, Cross-departmental meetings, teamwork	High

Thompson (1967) further explained that "all organizations have pooled interdependence; more complicated organizations have sequential as well as pooled; and the most complex have reciprocal, sequential, and pooled" (p. 55). This theory further illustrates the complexity of the management task. The actions required in management in a reciprocal organization not only have the direct challenges of the complex tasks, but they also have the challenges of sequential and pooled interdependence.

My research is informed by this theory because the defense acquisition process is highly interdependent and complicated, and this theory provides an orderly method for considering the need for stakeholder involvement.

E.   BOUNDARY SPANNING

Boundary spanning is a strategic management concept. It deals with the sharing of information outside of an organization or across organizational boundaries. Daft (1998) described a company in a product innovation industry as having groups of highly specialized individuals in areas of product development, marketing, and production. The strength of these people to reach outside of their parent organization to gain and share information is critical to gaining a competitive advantage (Daft, 1998, pp. 299–300).

Product development teams maintain awareness on the current technologies that the parent company could leverage. The marketing team is aware of market trends and potential areas to target sales. The production section understands innovative production capabilities to gain efficiency in the production process. Effective organizations enable people in each of the respective areas of expertise to cross established organizational boundaries to share and gain information. People who span organizational boundaries do so through professional relationships. It is important for an organization to foster this behavior and encourage employees to pursue boundary-spanning activities. There is direct application to the defense acquisition industry. The acquisition profession is a similar organization as described by Daft (1998) and is focused on innovation, production, and delivering product to a customer, and it can similarly benefit from such activity.

F.   COLLABORATION THEORY

It is important to know that there is not one commonly accepted theory pertaining to collaboration. In fact, as Huxham (1996) stated in the prologue to his work *Creating Collaborative Advantage*, "[he] was struck at the enormous variety within [his book]: the variety of definition of collaboration; variety in setting for collaboration; variety in process of collaboration; variety in ideology for collaboration" (Huxham, 1996, "Prologue," para. 4).

According to Huxham (1996), regardless of the definition that is used for collaboration, there are some commonly accepted aspects: Collaboration occurs in many venues, it is valuable, and it is difficult. Collaboration occurs in the public and private sectors worldwide. In some cases, as within the DoD, collaboration is strongly encouraged because of its known benefits. When collaboration is executed correctly, the outcome is more valuable than the work of individuals because of the creative result of people sharing ideas, perspectives, and expertise. To effectively collaborate, there are time considerations and other logistical requirements, such as

travel accommodations, particularly if collaboration is to occur at a common location for otherwise geographically separate organizations. There is an element of expectation management that must occur as well. The time and resource requirements are greater than simply information sharing among stakeholders, and participant and organizational leadership must be aware of the cost associated with effective collaboration.

An important condition for success in collaboration is that participants need to be empowered with the "authority, autonomy … and accountability" of their parent organizations (Huxham, 1996, p. 5). Without this condition, the process of collaboration becomes cumbersome because members have to confer with the parent organizations for concurrence to act, which adds to the time required for collaborative activities.

Huxham (1996) suggested the rationale for collaboration is broken into "five areas—empowerment and participation; power relationships; addressing conflict; substantive change; and ambitiousness" (p. 8). Although this suggests that a model to explain collaboration exists and is clear to understand and apply, he admits that this is not true.

G.   ASSESSING COLLABORATIVE CAPACITY

The inter-organization collaborative capacity (ICC) model was created by NPS faculty members (Hocevar et al., 2006) to assess an organization's collaborative capacity. Like Huxham's breakdown of collaboration rationale, the ICC model has five domains: Purpose & Strategy, Incentives & Reward Systems, Structure, People, and Lateral Mechanisms. I used the ICC model to gather and analyze data for this project.

The ICC model is a tool designed to measure collaboration effectiveness among organizational members. The model was first created for use with the Department of Homeland Security following Hurricane Katrina. The model can be used in many different environments, but for this project, it is applied to the defense acquisition profession and, more specifically, to a program management office and its associated stakeholders. It is assumed that the development of collaborative capacity will improve outcomes over time and under varying conditions (Hocevar, Jansen, & Thomas, 2012). Figure 4 displays the ICC model.
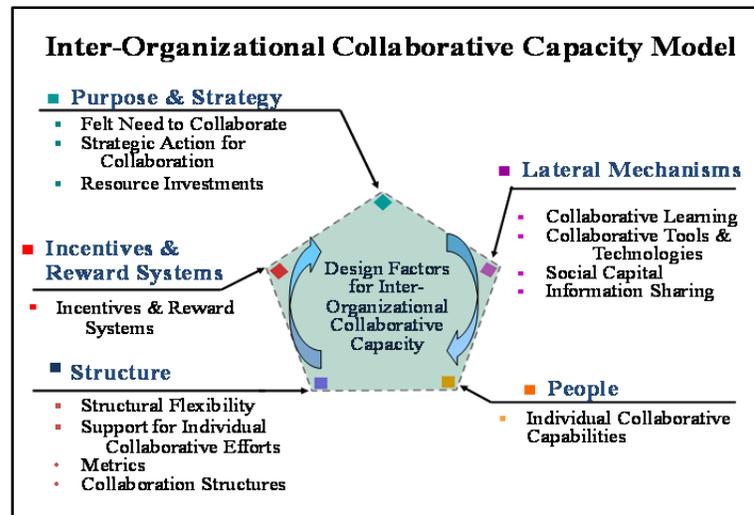
Figure 4.   Inter-Organizational Collaborative Capacity Model
(Hocevar, 2010)

The ICC model incorporates five components:

- *Purpose & Strategy* has three factors: felt need (urgency), strategic actions (goal, leader commitment, etc.), and resource investments (budget and personnel).

- *Incentives & Reward Systems* has one factor: reward system (employees rewarded for collaboration).

- *Structure* has four factors: collaboration structures (roles and responsibilities), structural flexibility (adaptation to change), metrics, and support for individual collaboration efforts.

- *People* has one factor: individual collaborative capabilities (attitudes, knowledge, and skills).

- *Lateral Mechanisms* has four factors: social capital (professional relationships with counterparts), collaborative tools and techniques (technical tools for collaboration), information sharing (sharing across organizational boundaries), and collaborative learning (applying lessons learned from other organizations or past experiences) (Hocevar et al., 2012).

1.   Consequences of Poor Collaboration

The U.S. government continually assesses acquisition programs for performance each year. In 2013, the GAO conducted a study of 14 DoD major automated information system (MAIS) programs. Of the programs reviewed, three programs stayed within the cost, schedule, and performance parameters, and two

programs failed in all three parameters. The other programs had deficiencies in at least one of the parameters. Of the identified issues associated with the two failing programs (Air Force and Army), both kept their stakeholders informed but still had shortcomings. Specifically, the Army program

> met with stakeholders, [but] it did not effectively use its independent verification and validation (IV&V) function to monitor its program. Until the Army program specifies the roles and responsibilities of the IV&V agent to ensure that it maintains its independence from the risk management processes that it reviews, the program jeopardizes its ability to fully monitor and control the program. (GAO, 2013, "What GAO Found," para. 3)

This finding demonstrates that identifying stakeholders and meeting routinely is not enough to effectively manage a program. Collaboration is much more than simply meeting and sharing information.

2. Benefits of Good Collaboration

The GAO conducted an audit of three federal programs identified as having successful collaborative practices. The results were provided to Congress, the Office of Management and Budget, and the executive branch agencies to further inform future strategic plans for collaboration (GAO, 2005). The findings resulted in what the GAO determined were best practices for agencies to replicate:

- defining and articulating a common outcome;
- establishing mutually reinforcing or joint strategies to achieve the outcome;
- identifying and addressing needs by leveraging resources;
- agreeing upon agency roles and responsibilities;
- establishing compatible policies, procedures, and other means to operate across agency boundaries;
- developing mechanisms to monitor, evaluate, and report the results of collaborative efforts;
- reinforcing agency accountability for collaborative efforts through agency plans and reports; and
- reinforcing individual accountability for collaborative efforts through agency performance management systems. (GAO, 2005, pp. 10–11)

This study did not show cost savings or avoidance because of implementing these practices, but successfully implemented policies and effective procedures were shown to have effective results. For example, Veteran's Affairs Gulf Coast

Health Care System and the Naval Hospital Pensacola teamed to build a new hospital that treats both Navy personnel and veterans (GAO, 2005).

H.   SUMMARY

In this chapter, I established the idea of stakeholder importance through Freeman's (1984) theory, wherein he explained the reliance a firm has on external participants and explained a way to determine a firm's stakeholders. Savage et al. (1991) further explained stakeholder management through defining four stakeholder groups and explained a different theory to engage the respective groups of individuals. In his interdependence theory, Thompson (1967) explained organizations based on complexity of work. With increased complexity, he suggested that when management requirements increase, so too does the interdependency of co-workers within an organization. Daft (1988) explained the role of boundary spanning in industry. This notion is important in understanding why effective stakeholders should seek resources, regardless of organizational boundaries, and shows the potential power of an organization when the employees are proactive in this regard. Last, I introduced collaboration theory to explain the different aspects of collaboration. I presented the ICC model as a method of assessing collaborative capacity. This chapter shapes the context for this report by presenting the different theories that I applied in my research and explaining how I assess collaboration in a program office.

THIS PAGE INTENTIONALLY LEFT BLANK

III. BACKGROUND

A. OVERVIEW

The purpose of this chapter is to provide a basic understanding of the three primary decision support systems used within the DoD and the relationship the program manager (PM) has with these systems during the acquisition of products or services (DoD, 2013). The three systems are the Joint Capabilities Integration and Development System (JCIDS), which provides the PM with acquisition requirements documents; the Defense Acquisition System (DAS), which PMs use to develop and acquire the needed products to fulfill the requirement; and the Planning, Programming, Budgeting, and Execution (PPBE) process, which the PM must understand because it connects the program to the funding sources. Figure 5 displays the three support systems.

DoD Decision Support Systems

CJCS 3170.01 Series

Joint Capabilities
Integration &
Development
System (JCIDS)

*VCJCS/JROC
Oversight*

PPBE

Defense
Acquisition
System

*Milestone Decision
Authority (MDA)
Oversight*

DoD 5000 Series

Planning, Programming,
Budgeting & Execution
(PPBE) Process

*DEPSECDEF
Oversight*
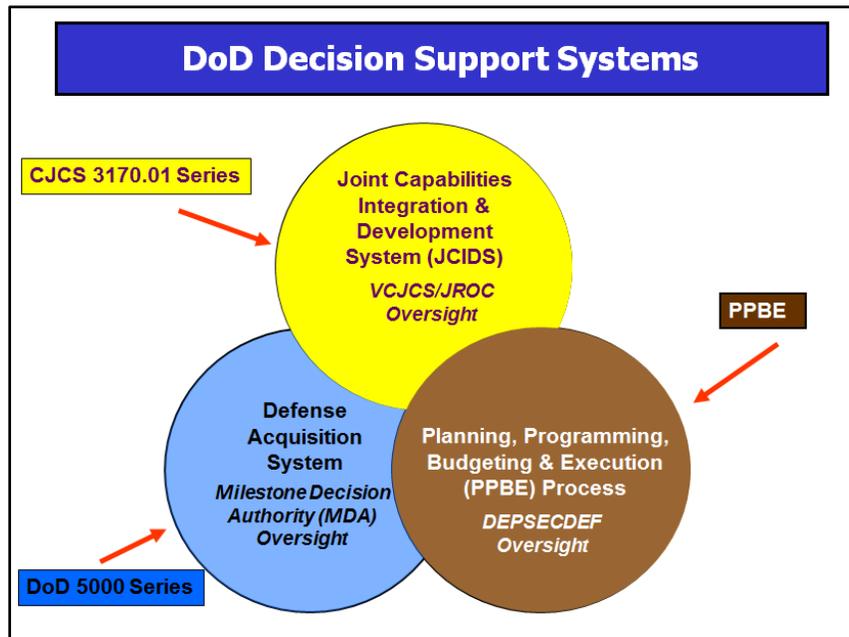
Figure 5.   DoD Decision Support Systems
(DoD, 2013)

B. JOINT CAPABILITIES INTEGRATION AND DEVELOPMENT SYSTEM

The JCIDS is a decision support system that starts with strategic guidance and then identifies future capability gaps to support that guidance. If the gap is filled with a materiel solution or new technology, then the required performance is captured in a requirements document. The three requirements documents are the initial capability document (ICD), capability development document (CDD), and capability production document (CPD; Chairman of the Joint Chiefs of Staff [CJCS],

2012b). JCIDS is a top-down requirements generation process, meaning it moves from national-level strategy to tactical-level employment by joint military services. The Joint Requirements Oversight Council (JROC) is the approval authority for JCIDS requirements and has representation from each military service on the council (DoD, 2013).

The JROC is the principal advisor to the president of the United States, the National Security Council, the Homeland Security Council, and the secretary of defense regarding "planning, advice, and policy formulation; risks under National Military Strategy; [and publication of the] Annual Report on Combatant Command Requirements" (CJCS, 2012a, pp. A-1–A-2). The JROC also executes these roles as assigned (for the purpose of this report, these are the focus areas):

> (1) Assisting the Chairman in identifying, assessing, and validating joint military requirements, including existing systems and equipment, to meet the NMS; identifying the core mission area … associated with each requirement; and ensuring the consideration of trade-offs among cost, schedule, and performance objectives for joint military requirements.
>
> (2) Assisting the Chairman in establishing and assigning priority levels for joint military requirements.
>
> (3) Assisting the Chairman in reviewing the estimated level of resources required in the fulfillment of each joint military requirement and in ensuring resource levels are consistent with the level of priority for each requirement.
>
> (4) Assisting acquisition officials in identifying alternatives for Major Defense Acquisition Programs.
>
> (5) Assisting the Chairman in establishing an objective for the overall period of time within which an initial operational capability should be delivered to meet each joint military requirement. (CJCS, 2012a, pp. A-2–A-3)

According to the *Defense Acquisition Guidebook* (DoD, 2013), the purpose of the JCIDS is to determine future required capabilities based on guidance from three primary documents: the *National Security Strategy*, the *National Defense Strategy*, and the *National Military Strategy*. Based on strategic guidance, the JCIDS establishes future military capability requirements. If the needed capability is new, then a capability gap is revealed. From these gaps comes a determination of solutions to meet the requirement. These possible gap solutions are considered from these areas: doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF; DoD, 2013). Changes to the areas within DOTMLPF must be considered before an investment decision is made to develop or

acquire a new materiel (materiel is considered last because it is the most resource intensive).

The guiding document for the JCIDS is the CJCS Instruction (CJCSI) 3170.01, *Joint Capabilities Integration and Development System* (CJCS, 2012c). The JCIDS manual contains detailed instructions on the operation and associated personnel responsibilities to operate and monitor this system. The JCIDS process begins with a capability requirement; next, the associated requirements document is created and staffed for validation. Once a requirement is validated, the requirement (ICD, CDD, or CPD) is forwarded to a PM for execution. The PM provides input to the JCIDS process to help inform the subsequent requirements documents. Figure 6 displays the JCIDS process.
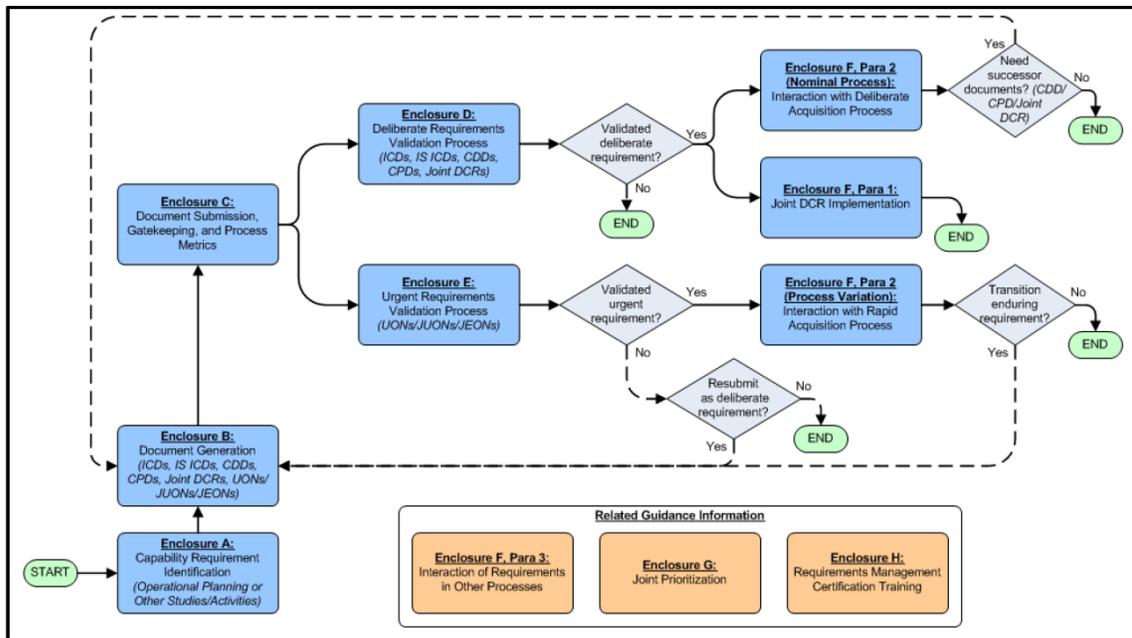
Figure 6. Overview of the JCIDS Process
(CJSC, 2012c, p. 2)

The outputs from this decision system are identified and documented capability gaps, some of which result in a materiel need. This is where JCIDS and the DAS relate. Defense acquisition programs are created to develop material solutions to fill these gaps. JCIDS further informs the acquisition process through documents that specify what these systems must perform. Figure 7 depicts the relationship between the JCIDS process and the DAS. This process shows the relationship between the JCIDS document CDD, informing the DAS for a major acquisition milestone decision. In turn, the milestone decision informs the development of the next key document, CPD, which processes through the JCIDS to be validated and later used by the acquisition community through the DAS.
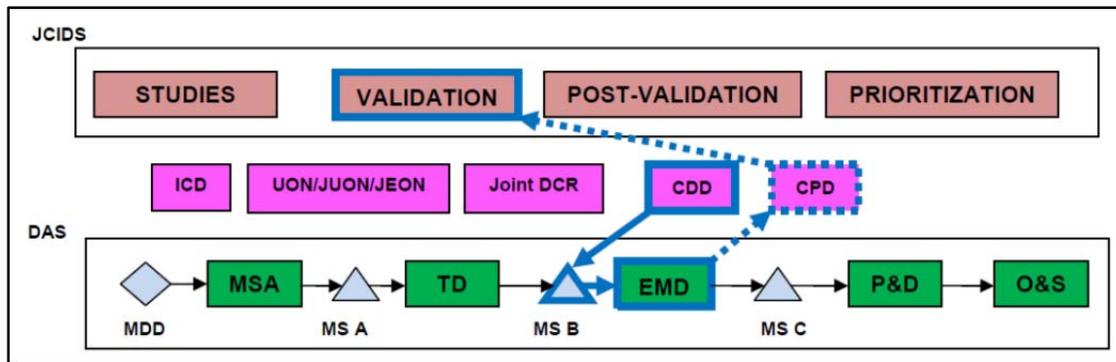
Figure 7. Nominal Process During the Engineering Manufacturing and Development Phase
(CJSC, 2012c, p. F-6)

The program manager works through the DAS to develop the material solution and is reliant on the JCIDS requirements documents.

C.   DEFENSE ACQUISITION SYSTEM

The DAS is an event-driven management system. The purpose of this system is to guide the development and management of defense acquisition programs. DoD Directive 5000.01, *The Defense Acquisition System* (Office of the Under Secretary of Defense for Acquisition, Technology, & Logistics [OUSD(AT&L)], 2007), and DoD Instruction 5000.02, *Operation of the Defense Acquisition System* (OUSD[AT&L], 2013a), are the governing documents. The *Defense Acquisition Guidebook* (DoD, 2013) is a detailed collection of best practices intended to accompany the 5000-series documents. Program activities (e.g., critical decisions and reviews) are illustrated in Figure 8.
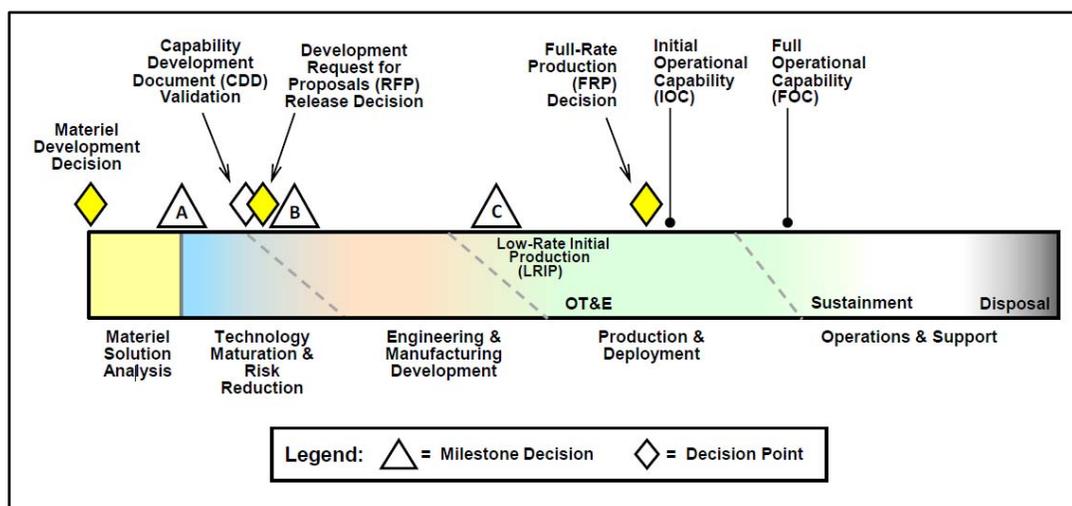
Figure 8.   Defense Acquisition Management System
(OUSD[AT&L], 2013a, p. 9)

This system is the primary process program managers utilize; however, as discussed earlier, there is a distinct dependency on the other decision support systems discussed in this chapter. Figure 7 is a similar display of the iterative nature and reliance between the DAS and the JCIDS (DoD, 2013). In Figure 9, the ICD (output of the JCIDS process) is shown as the guiding document and an input to the DAS. The Materiel Development Decision is made for the PM to proceed into the Materiel Solution Analysis (MSA) phase. The activities within the MSA phase further inform the JCIDS process, which results in the creation of the CDD, which leads to a Milestone A decision to proceed in the technology maturation and risk reduction phase (the blue shaded area in Figure 8). This process continues throughout the acquisition life cycle.
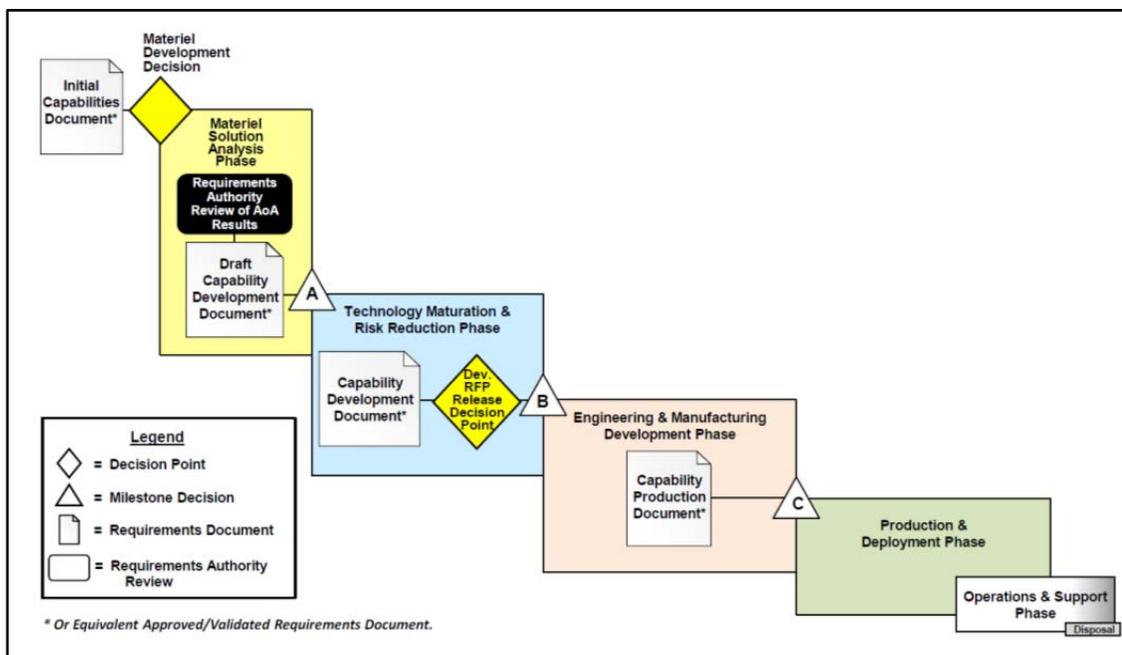
Figure 9. Interaction Between the Capability Requirements Process and the Acquisition Process
(OUSD[AT&L], 2013a, p. 5)

D.   PLANNING, PROGRAMMING, BUDGETING, AND EXECUTION SYSTEM

The PPBE is a decision support system that focuses on the resource allocation within the DoD. Unlike the JCIDS and DAS, the PPBE system is calendar-driven. This is a critical component that PMs must observe in order to provide timely and accurate program information to support the PPBE schedule.

The policy that governs this system is DoD Directive 7045.14 (OUSD[AT&L], 2013b). The system has four distinct parts, as indicated in the naming convention (DoD, 2013):

- *Planning*—The planning phase considers defense strategy, and the resultant document is the defense planning guidance. This document guides each service in planning for resource requirements (DoD, 2013).

- *Programming*—In programming, each service creates a program objective memorandum (POM), which, in broad terms, defines the resources needed to fund department programs for five years (DoD, 2013).

- *Budgeting*—Budgeting is a detailed depiction of resources needed and translates POM dollars into Congressional appropriations categories and focuses on one year. The programming and budgeting steps occur simultaneously. The resource management decision (RMD) document contains decisions from these two phases and is used to further inform the Congressional budgeting process (DoD, 2013).

- *Execution*—During execution, review of the actual spending of planned program dollars is compared with the current resourcing plan. Senior leaders review this information to determine the effectiveness of current and planned resourcing decisions. A poorly performing program is susceptible to losing funding following an execution review. The funding could be redistributed by senior defense officials to fund another program that has an unfunded need, or in extreme cases, rescinded by Congress (DoD, 2013).

These last three phases are distinct from each other but occur simultaneously (DoD, 2013). The PM must be familiar with this process and maintain an awareness of when critical decisions are made. By understanding this system, the PM can ensure current and accurate information is available to decision-makers to avoid poorly informed outcomes related to the program (DoD, 2013). Although the DAS is designed to be event-oriented, after the funding has been established the milestones are linked with the funding, and the model becomes very rigid. This has the effect of turning the event-oriented, systems engineering–based model into a schedule-based model.

E. SUMMARY

This chapter provides information about the acquisition environment as it relates to the three systems described, the role the PM has in this process, and the

need for stakeholder management. A successful PM understands not only the three decision support systems (JCIDS, PPBEs, and DAS) but also the key personnel within the organizations. It is through the relationships with these individuals that effective program management occurs. The persons within each system make up the stakeholders and hold the expertise the PM must leverage to make sound investment decisions for the program portfolio. The ability of the stakeholders to collaborate is critical to making the most informed and timely decisions. Program success is directly related to the ability of the PM to manage the expectations of each stakeholder and foster the collaborative efforts of the group throughout the acquisition process (DoD, 2013).

THIS PAGE INTENTIONALLY LEFT BLANK

IV. RESEARCH METHODS AND FINDINGS

A. INTRODUCTION

This chapter describes the design of this study, including the development of the online survey, development of the interview protocol, and selection of the participants. Additionally, this chapter explains how the data were analyzed. Last, the results of the survey and interviews are presented.

B. RESEARCH METHODS

This study builds on an inter-organizational capacity (ICC) model and associated assessment tool that was developed at NPS by Hocevar et al. (2006). Since that time, several NPS students have conducted their thesis research using this model and tool (Kirshman & LaPorte, 2008; Bauer & Meeker, 2011). This study continues this stream of research. I used an adaptation of the ICC assessment tool to create a survey and a semi-structured interview. Using these tools, I collected data from eight subjects. Both the survey and the interview protocols were approved by the NPS Institutional Review Board on December 23, 2013.

C. SELECTION OF STUDY PARTICIPANTS

This project focuses on individuals who were associated with an Army acquisition program office. In coordination with the program office for this project, eight key stakeholders were identified. I contacted these individuals via email and asked them to participate in this study (see Appendix A). All eight participants agreed to participate. These individuals are from the following organizations:

1. Program Management Office—This person is responsible for the overall acquisition project management activities of a product portfolio (e.g., managing the cost, schedule, and performance parameters for a particular product being developed).

2. HQ, Department of the Army G-3/5/7 staff officer—This person is responsible for prioritizing and advocating for future capability requirements and facilitates force structure changes.

3. HQ, Department of the Army G-8 synchronization officer—This person manages the programming and budget for the product portfolio.

4. Department of the Army systems coordinator (DASC)—This person directly supports the assistant secretary of the Army for acquisition, logistics, and technology regarding a product portfolio and also interfaces with the assigned PM that manages the product portfolio.

5. Training and doctrine capabilities manager—This person is responsible for capturing technical information about a system under development and writes the capability requirement document used by the PM in the acquisition process.

6. Program Executive Office (PEO; Sensor) primary staff coordinator—This person represents the PEO and provides acquisition support to the PM and facilitates staffing acquisition documentation.

7. Program Executive Office (Platform) systems integrator—This person has technical responsibilities for product integration on a military vehicle platform such as a ground vehicle or aircraft. In this study, the PM office develops a product that must be integrated on an existing vehicle platform.

8. Research laboratory technical advisor—This person is responsible for providing independent government technical expertise related to the product under development during the acquisition process.

D. INTER-ORGANIZATIONAL COLLABORATION CAPACITY SURVEY ADMINISTRATION

I created a survey from a pool of questions developed by Thomas et al. (2007). I selected questions based on applicability to the selected field site and entered them into LimeSurvey software in a random order to offset bias (e.g., the three questions for the *felt need* factor were spread throughout the survey, not in sequence). Once the stakeholders agreed to participate in the study, I sent an email with a hyperlink for the Lime survey.

Prior to the administration of the survey, I selected a group of volunteer participants from the DoD and gave them a pilot survey twice. Several of the volunteers had previously served in various staff positions at Headquarters, Department of the Army. Some volunteers had no acquisition experience.

The purpose of the first pilot survey was to determine whether the questions were simple to understand and easy to answer, and the survey was provided as a Microsoft Word document. The second pilot survey was administered using the LimeSurvey software to determine whether the survey software was properly set up and easy to use. The results from the pilot surveys contributed to the ease of understanding and usefulness of the final product.

The final survey was given to the eight study participants one or two days before their interview. The participants were asked to provide information about their general perceptions of inter-organizational collaborative capacity. They were not asked to think about a specific acquisition decision as a context for their responses.

The survey included 37 questions associated with five ICC domains and thirteen factors. The domains and factors are as follows:

1. Purpose & Strategy
   a. Felt Need
   b. Strategic Actions
   c. Resource Investments
2. Structure
   a. Collaboration Structures
   b. Structural Flexibility
   c. Metrics
   d. Support for Individual Collaborative Efforts
3. Incentives & Rewards
   a. Reward Systems
4. Lateral Mechanisms
   a. Social Capital
   b. Collaborative Tools and Technologies
   c. Information Sharing
   d. Collaborative Learning
5. People
   a. Individual Collaborative Capabilities

Individuals were asked to respond to each question using a Likert scale from 1 = strongly disagree to 5 = strongly agree. A final survey question elicited information about individuals' participation in other inter-organizational teams. The complete survey is provided in Appendix B.

E.   KEY STAKEHOLDER SEMI-STRUCTURED INTERVIEWS

The interview protocol focused on a successful acquisition strategy decision brief to the Army Acquisition Executive. The eight participants were interviewed for 30–45 minutes each. All interviews were recorded for accuracy and later transcribed. The interview protocol began by asking each participant to identify stakeholders who were key to the acquisition process. Each participant was given a list of stakeholders (see Appendix C) and asked to add any stakeholders who were missing, along with an explanation of why the additions were important. Next, the participants were asked to focus on the actions of the stakeholder group from the beginning of the strategy development, through key events leading to the decision, and the actions

during the decision brief. They were then asked to describe when the strategy had passed a tipping point or decisive point, and success seemed imminent. The interviews concluded with a discussion of the challenges that they anticipated would result from executing the strategy.

F.　ANALYSIS OF THE SURVEY DATA

The surveys were distributed electronically using the LimeSurvey software. Once the participants finished the survey, I downloaded the data into an Excel spreadsheet and manually re-grouped them into the ICC domains and factors. I determined the mean score and standard deviation for each question. I then ranked the means from strongest to weakest.

G.　ANALYSIS OF INTERVIEW DATA

Using the transcripts of the eight interviews, I coded the data using the five ICC domains and 13 factors that are described in Section D of this chapter. In addition, I used stakeholder theory to guide the coding of the data.

Following the line-by-line coding of the transcripts, the data were summarized in a spreadsheet. Table 2 illustrates how the data were summarized. The five ICC domains (shaded green) are displayed along the top of the table, and the 13 factors (shaded in blue) are displayed to the right of the domains. As the coding was conducted, the page number of the quote that indicated each domain and factor was also recorded for later reference in the transcript. The interview quote was also included in this spreadsheet (redacted for this report to maintain participant anonymity).

Table 2.   Example of Interview Code Summary Entry

*Individual collaborative capacity factor decomposed to four areas

Note. Acronyms in each factor column correspond to the factor (e.g., SF = structural flexibility).

It is also important to note that often, multiple domains and factors were identified in a few lines of the transcript. The interview transcripts were dense with information and often crossed domains and factors. Once the coding was complete and the spreadsheet compiled, percentages of themes for each domain and factor were identified

H.   SURVEY RESULTS

Results from the survey questions are presented below. Table 3 provides an overall ranking for the means of the five ICC domains.

Table 3.   Mean Ratings of the Five Inter-Organizational Collaborative Capacity Domains

ICC DOMAIN	MEAN
Purpose & Strategy	3.82
Lateral Mechanisms	3.78
People	3.69
Structure	3.47
Incentives & Rewards	3.29

Note. Ratings based on a scale where 1 = strongly disagree and 5 = strongly agree.

Of the five domains, Purpose & Strategy rated the highest, with a mean of 3.82. Lateral Mechanisms had the next highest mean at 3.78. The data show that the study participants believe that collaborative capacity is most strongly driven by a sense of purpose and by strategic actions by the leaders. Lateral Mechanisms were

rated second highest, showing that participants believe that activities that work across boundaries are important to building collaborative capacity. The weakest domains were Structure and Incentives & Rewards. This would seem to indicate that the participants believed that goals, processes, procedures, and metrics were not strong contributors to the program's collaborative capacity. Likewise, participants did not believe that rewards or incentives were being used to bolster collaborative capacity.

The following section shows the mean and standard deviation for each of the survey questions within each set of factors and the overall domain. Questions are presented according to the rank of the domains, highest to lowest.

Table 4 shows the means and standard deviations for the six questions within the Purpose & Strategy domain. The highest rated questions were those within the factor of Felt Need. For all three questions within Felt Need, seven of the eight participants agreed or strongly agreed that collaboration was a high priority, that purpose for collaboration was clear, and that they understood the importance of working together.

Table 4.   Purpose & Strategy Survey Questions (N = 8, Mean = 3.82)

Domain	Factor	Question	Mean	SD	Disagree/ Strongly Disagree	Neither Agree or Disagree	Strongly Agree/ Agree	Don't Know or No Answer
Purpose & Strategy	Felt Need	Effective collaboration is a high priority for the STAKEHOLDER COMMUNITY.	4.25	1.39	12.5%	0%	87.5%	0%
Purpose & Strategy	Felt Need	Members of the STAKEHOLDER COMMUNITY understand the purpose and value of effective internal stakeholder.	4.13	1.36	12.5%	0%	87.5%	0%
Purpose & Strategy	Felt Need	The STAKEHOLDER COMMUNITY recognizes the importance of working together effectively to achieve its mission.	3.88	1.25	12.5%	0%	87.5%	0%
Purpose & Strategy	Resource Investment in Collaboration	The STAKEHOLDER COMMUNITY has adequate budget and resources to collaborate effectively.	3.75	1.04	12.5%	25%	62.5%	0%
Purpose & Strategy	Strategic Action for Collaboration	The STAKEHOLDER COMMUNITY considers the interests of each member's parent organization in STAKEHOLDER COMMUNITY planning.	3.63	1.19	12.5%	12.5%	75%	0%
Purpose & Strategy	Strategic Action for Collaboration	Leaders of the STAKEHOLDER COMMUNITY work productively with external organization to improve collaborations.	3.25	1.28	25%	25%	50%	0%

Significance: According to Thomas et al. (2007), Purpose & Strategy is typically a common stimulus for group collaboration. Either through a threat or an apparent opportunity, a group begins to take action, resulting in a high rating for this domain. Often, leadership is initiating the action and is supported by appropriate resourcing and guidance.

Lateral mechanisms received the second highest domain score with an overall mean of 3.78. The 10 questions and respective scores are shown in Table 5. These data show that the respondents agreed most strongly that technical inoperability contributed to their collaborative capacity. Social capital factors, having to do with developing relationships outside of the organization, were the next highest rated factors.

Table 5.   Lateral Mechanisms Survey Questions (N = 8, Mean = 3.78)

Domain	Factor	Question	Mean	SD	Disagree/ Strongly Disagree	Neither Agree or Disagree	Strongly Agree/ Agree	Don't Know or No Answer
Lateral Mechanism	Collaborative Tools & Technologies	The STAKEHOLDER COMMUNITY has the technical interoperability (e.g., information systems) to enable effective collaboration.	4.13	.64	0%	12.5%	87.5%	0%
Lateral Mechanisms	Social Capital	Members of the STAKEHOLDER COMMUNITY have strong networks of professional relationships with people in external organizations.	4.13	.99	12.5%	0%	87.5%	0%
Lateral Mechanisms	Social Capital	Members of the STAKEHOLDER COMMUNITY know who to contact in external organizations for information.	4.13	.35	0%	0%	100%	0%
Lateral Mechanisms	Collaborative Learning	The STAKEHOLDER COMMUNITY has adequate human resources to collaborate effectively.	3.88	.64	0%	25%	75%	0%
Lateral Mechanisms	Collaborative Learning	The STAKEHOLDER COMMUNITY takes time to learn about the interests of external stakeholder organizations.	3.75	1.16	12.5%	0%	87.5%	0%
Lateral Mechanisms	Information Sharing	The STAKEHOLDER COMMUNITY provides external organizations adequate access to information that is relevant to their work.	3.75	1.16	12.5%	0%	87.5%	0%
Lateral Mechanisms	Information Sharing	The STAKEHOLDER COMMUNITY has strong values and norms that encourage sharing information internally.	3.71	1.50	12.5%	25%	50%	12.5%
Lateral Mechanisms	Social Capital	Members of the STAKEHOLDER COMMUNITY take the initiative to build relationships with their counterparts in external organizations.	3.63	1.30	12.5%	25%	62.5%	0%
Lateral Mechanism	Collaborative Tools & Technologies	The STAKEHOLDER COMMUNITY collaborations are effectively supported by collaborative planning tools and technologies.	3.38	1.19	25%	0%	75%	0%
Lateral Mechanisms	Collaborative Learning	The STAKEHOLDER COMMUNITY understands how the other organizations we work with make decisions (external collaboration).	3.25	1.16	25%	12.5%	62.5%	0%

Significance: The Lateral Mechanism domain explains the role of stakeholder professional relationships and the ability of the group to work independently through these relationships to collaborate and achieve results. Key to this aspect of collaboration is the ability and willingness to share information internal and external to the stakeholder group. The highest scoring attributes were dealing with professional networks and effectively communicating through them.

The third highest rated domain was People, with a mean score of 3.69. The results, by question and factor, are displayed in Table 6. At this point in the survey, the participants began to assess the members of the stakeholder community with regard to the individual collaborative abilities. Six of eight members rated that they strongly agree or agree with the four highest mean score survey questions for this domain, which address the ability to work with external agencies.

Table 6.   People Survey Questions (N = 8, Mean = 3.69)

Domain	Factor	Question	Mean	SD	Disagree/ Strongly Disagree	Neither Agree or Disagree	Strongly Agree/ Agree	Don't Know or No Answer
People	Individual Collaborative Capability	Members of the STAKEHOLDER COMMUNITY respect the expertise of those in external organizations with whom we work.	3.88	1.36	12.5%	12.5%	75%	0%
People	Individual Collaborative Capacity	Members of the STAKEHOLDER COMMUNITY are able to appreciate an external organization's perspective on a problem or course of action.	3.86	.90	12.5%	0%	75%	12.5%
People	Individual Collaborative Capacity	Members of the STAKEHOLDER COMMUNITY seek input from external organizations.	3.75	.89	12.5%	12.5%	75%	0%
People	Individual Collaborative Capability	Members of the STAKEHOLDER COMMUNITY understand the capabilities of external organizations with which we work.	3.63	.74	12.5%	12.5%	75%	0%
People	Individual Collaborative Capacity	Members of the STAKEHOLDER COMMUNITY have the collaborative skills (e.g., conflict management, team process skills) needed to work effectively together.	3.63	.92	12.5%	25%	62.5%	0%
People	Individual Collaborative Capacity	Members of the STAKEHOLDER COMMUNITY are willing to engage in a shared decision making process together.	3.38	1.19	37.5%	0%	62.5%	0%

Significance: In this domain, the interpersonal skills to deal effectively with conflict and work in a group is addressed. This is important when groups of seasoned stakeholders with different experiences and skills work to solve a central problem. The last question had 37.5% of respondents strongly disagree/disagree that the stakeholder community is willing to engage in shared decision-making. This can be attributed to the strength of personalities and the military organizational structure. Shared decision-making is not a common method in most military organizations. However, there is evidence showing that this group routinely reaches common agreement throughout the collaborative process. The data imply that this is a point of friction but not a barrier to collaboration.

The Structure domain had a collective mean score of 3.47 and was ranked fourth of the five. The specific results by question and factor are shown in Table 7. There is consensus within this group of questions, with seven of eight participants in agreement, that the collaborative structures enable effective collaboration. However, the lowest two scores of the survey are also in the section and address the metrics factor of collaboration, with only two participants agreeing that there are effective collaboration measurement criteria.

Table 7. Structure Survey Questions (N = 8, Mean = 3.47)

Domain	Factor	Question	Mean	SD	Disagree/ Strongly Disagree	Neither Agree or Disagree	Strongly Agree/ Agree	Don't Know or No Answer
Structure	Support for Individual Collaborative Efforts	The members of the STAKEHOLDER COMMUNITY have the authority they need to effectively collaborate together.	3.88	.99	12.5%	12.5%	75%	0%
Structure	Structural Flexibility	The STAKEHOLDER COMMUNITY can quickly form or modify partnerships as requirements change.	3.75	.89	12.5%	12.5%	75%	0%
Structure	Structural Flexibility	The STAKEHOLDER COMMUNITY is flexible and responsive in adapting its procedures and practices for more effective.	3.75	.89	12.5%	12.5%	75%	0%
Structure	Collaborative Structures	The STAKEHOLDER COMMUNITY has adequate and appropriate structures (e.g., liaison roles, teams, task forces) for effective collaboration.	3.75	1.16	12.5%	0%	87.5%	0%
Structure	Collaborative Structures	The STAKEHOLDER COMMUNITY's processes and procedures are structured to enable effective collaboration.	3.50	1.20	12.5%	25%	62.5%	0%
Structure	Collaborative Structures	The STAKEHOLDER COMMUNITY establishes specific agreements about each organization's roles and responsibilities in collaboration (e.g., STAKEHOLDER COMMUNITY charter and rules).	3.43	1.27	12.5%	25%	50%	12.5%
Structure	Support of Individual Collaborative Efforts	Members are given clear guidance on goals and constraints for their STAKEHOLDER COMMUNITY work.	3.43	.53	0%	50%	37.5%	12.5%
Structure	Support for Individual Collaborative Efforts	The STAKEHOLDER COMMUNITY follows through on recommendations from our representatives on external task forces/tiger teams.	3.38	1.19	12.5%	37.5%	50%	0%
Structure	Metrics	The STAKEHOLDER COMMUNITY has measurement criteria to evaluate the outcomes of collaboration.	3.00	1.00	12.5%	50%	25%	12.5%
Structure	Metrics	The STAKEHOLDER COMMUNITY has measurement criteria to evaluate internal collaboration efforts	2.86	1.35	37.5%	25%	25%	12.5%

Significance: The overall score was lower, but appropriate roles, authority, and the ability to change quickly scored high. The lowest scores were due to the difficult task of measuring collaboration. This suggests that the roles and enabling characteristics of a well-structured stakeholder group focus more on positive outcomes than measurement mechanisms. Metrics in collaboration is valuable but almost always a lagging factor and typically one of the last things implemented.

The next domain is Incentives & Rewards, which had a mean score of 3.29. The survey question related to this area is shown in Table 8. This question has a higher level of group disagreement indicated by the standard deviation of 1.50, the highest standard deviation score for the survey.

Table 8. Incentives & Rewards Survey Questions (N = 8, Mean = 3.29)

Domain	Factor	Question	Mean	SD	Disagree/ Strongly Disagree	Neither Agree or Disagree	Strongly Agree/ Agree	Don't Know or No Answer
Incentives & Rewards	Incentives & Rewards	The STAKEHOLDER COMMUNITY members are rewarded and recognized for collaborative talents and achievements.	3.29	1.50	25%	25%	37.5%	12.5%

Significance: This domain is comprised of both intrinsic and extrinsic incentives and rewards. According to the survey results, this was not a high factor in this stakeholder group. Responses seem to indicate a lack of consensus about incentives and rewards. It could mean that the definitions of rewards and incentives

differ among the stakeholders. It continues to be a motivating factor, just not one viewed strongly among the team members.

The next section is a ranking of top 10 highest, and bottom 10 lowest scoring domains. Table 9 displays the top 10 highest scores arranged by highest percentage of strongly agree and agree answers. Of those listed, eight of the top 10 come from the domains of Purpose & Strategy and Lateral Mechanisms, with seven of the eight stakeholders stating that they agree/strongly agree with those survey questions. The only question that received a unanimous response was about the stakeholder's ability to cross boundaries and work with external organizations.

Table 9.   Top 10 Highest Scoring Survey Questions (N = 8)

Domain	Factor	Question	Mean	SD	Disagree/ Strongly Disagree	Neither Agree or Disagree	Strongly Agree/ Agree	Don't Know or No Answer
Lateral Mechanisms	Social Capital	Members of the STAKEHOLDER COMMUNITY know who to contact in external organizations for information.	4.13	.35	0%	0%	100%	0%
Lateral Mechanisms	Collaborative Learning	The STAKEHOLDER COMMUNITY takes time to learn about the interests of external stakeholder organizations.	3.75	1.16	12.5%	0%	87.5%	0%
Lateral Mechanisms	Information Sharing	The STAKEHOLDER COMMUNITY provides external organizations adequate access to information that is relevant to their work.	3.75	1.16	12.5%	0%	87.5%	0%
Structure	Collaborative Structures	The STAKEHOLDER COMMUNITY has adequate and appropriate structures (e.g., liaison roles, teams, task forces) for effective collaboration.	3.75	1.16	12.5%	0%	87.5%	0%
Context		The STAKEHOLDER COMMUNITY has a history of working well together.	3.75	1.16	12.5%	0%	87.5%	0%
Purpose & Strategy	Felt Need	The STAKEHOLDER COMMUNITY recognizes the importance of working together effectively to achieve its mission.	3.88	1.25	12.5%	0%	87.5%	0%
Lateral Mechanisms	Social Capital	Members of the STAKEHOLDER COMMUNITY have strong networks of professional relationships with people in external organizations.	4.13	.99	12.5%	0%	87.5%	0%
Purpose & Strategy	Felt Need	Members of the STAKEHOLDER COMMUNITY understand the purpose and value of effective internal stakeholder.	4.13	1.36	12.5%	0%	87.5%	0%
Lateral Mechanism	Collaborative Tools & Technologies	The STAKEHOLDER COMMUNITY has the technical interoperability (e.g., information systems) to enable effective collaboration.	4.13	.64	0%	12.5%	87.5%	0%
Purpose & Strategy	Felt Need	Effective collaboration is a high priority for the STAKEHOLDER COMMUNITY.	4.25	1.39	12.5%	0%	87.5%	0%

Significance: The theme that is apparent in this grouping of high scoring questions is that the stakeholder group operates within a structure where the members have autonomy to collaborate. Collaboration is a creative process, and this study shows this group is enabled, not stifled, in their efforts to solve problems. This further explains why this group is effective in collaborating within the complex DoD acquisition environment.

The next section is a ranking of the bottom 10 lowest scoring domains. For this group of questions, the data were sorted from highest scoring responses for disagree and strongly disagree. Different from the top 10, this group of questions was answered with more dispersion and disagreement. All 10 questions have a standard deviation of 1.16 or higher, and only two questions received a response

higher than 25%. Table 10 shows the details of the 10 lowest scored survey questions.

Table 10.   Bottom 10 Lowest Scoring Survey Questions (N = 8)

Domain	Factor	Question	Mean	SD	Disagree/ Strongly Disagree	Neither Agree or Disagree	Strongly Agree/ Agree	Don't Know or No Answer
People	Individual Collaborative Capacity	Members of the STAKEHOLDER COMMUNITY are willing to engage in a shared decision making process together.	3.38	1.19	37.5%	0%	62.5%	0%
Structure	Metrics	The STAKEHOLDER COMMUNITY has measurement criteria to evaluate internal collaboration efforts	2.86	1.35	37.5%	25%	25%	12.5%
Lateral Mechanism	Collaborative Tools & Technologies	The STAKEHOLDER COMMUNITY collaborations are effectively supported by collaborative planning tools and technologies.	3.38	1.19	25%	0%	75%	0%
Lateral Mechanisms	Collaborative Learning	The STAKEHOLDER COMMUNITY understands how the other organizations we work with make decisions (external collaboration).	3.25	1.16	25%	12.5%	62.5%	0%
Purpose & Strategy	Strategic Action for Collaboration	Leaders of the STAKEHOLDER COMMUNITY work productively with external organization to improve collaborations.	3.25	1.28	25%	25%	50%	0%
Incentives & Rewards	Incentives & Rewards	The STAKEHOLDER COMMUNITY members are rewarded and recognized for collaborative talents and achievements.	3.29	1.50	25%	25%	37.5%	12.5%
Lateral Mechanisms	Collaborative Learning	The STAKEHOLDER COMMUNITY takes time to learn about the interests of external stakeholder organizations.	3.75	1.16	12.5%	0%	87.5%	0%
Lateral Mechanisms	Information Sharing	The STAKEHOLDER COMMUNITY provides external organizations adequate access to information that is relevant to their work.	3.75	1.16	12.5%	0%	87.5%	0%
Structure	Collaborative Structures	The STAKEHOLDER COMMUNITY has adequate and appropriate structures (e.g., liaison roles, teams, task forces) for effective collaboration.	3.75	1.16	12.5%	0%	87.5%	0%
Context		The STAKEHOLDER COMMUNITY has a history of working well together.	3.75	1.16	12.5%	0%	87.5%	0%

Significance: Again, this is a successful group of collaborators, so this is a listing of domains and factors that are weaker in this group's collaborative capacity. The data suggest that this list represents the less important aspects of collaboration. Once more, as previously discussed when the data were sorted by mean score, shared decision-making and the lack of collaboration metrics are shown to be the lowest scoring factors. Because this group has demonstrated effective collaboration, this is not a list of inhibitors, but if improved, it could render greater collaborative output.

I.   QUALITATIVE RESULTS

Results from the interview data are presented here. The purpose of this analysis is to determine patterns of effective collaboration among stakeholders over time. These data are displayed by percentage. For example, as seen in Table 11, when social capital was observed, 11% of the time there were 11 total observations. Table 11 displays a summary of the results of the qualitative coding.

The most prevalent domains and factors mentioned by the participants were Lateral Mechanisms (56%), Structure (33%), and People (31%), respectively.

Table 11. Interview Data Summary—Domains and Factors

<div align="center">Domains</div>

	Purpose	Structure	Reward	Lateral Mechanisms	People
How Often Domain Indentified*	**20%**	**33%**	**5%**	**56%**	**31%**
Felt Need	13%				
Strategic Actions	7%				
Resource Investment	1%				
Collaborative Structure		11%			
Structural Flexibility		16%			
Metrics					
Support for Individual Collab. Efforts		11%			
Reward Systems			5%		
Social Capital				22%	
Collab. Tools and Technologies					
Info Sharing				37%	
Collaborative Learning				5%	
Individual Collab. Capabilities					31%
Conflict Management**					5%
Respect for Expertise**					8%

*ICC Domain identified in the interview transcripts
**Not a factor in the ICC model but was a theme in the transcripts within the "People" domain

(Left margin label: Factors)

The summary table (Table 11) shows the domains across the top with the scores from the interviews directly beneath each domain, depicted in percentages of time that the domain was identified in the coding of the transcript. The factors are listed on the left-hand side of the table with each factor score from the interviews identified in the body of the table beneath the corresponding domain (e.g., Purpose was mentioned 20 times and yielded 20% of the total factors mentioned within a domain; statements related to Felt Need were found 13 times, which was 13% of the total comments within the Purpose domain).

Lateral Mechanism, with 56% overall rating, was the most prevalent domain throughout the interviews, with the information sharing factor occurring at 37%. During the interview with the DASC, it was apparent this domain had a strong commitment to maintaining open communication and to building on the trust established through this process. The following quote from the DASC reveals a commonly occurring theme about information sharing:

> The big thing for me is not trying to get ahead of the Navy in making sure that if I am going to send something to [Office of the Secretary of Defense], I tell the Navy that I am sending something to OSD because they are the lead component and I want to make sure they are okay with it because I don't want to get in front of them.

This domain signifies the self-awareness of the group as well as the reliance on external stakeholders through sharing information and professional networks.

Structure has the second highest scoring domain with 33% of the mentions. The factor of structural flexibility was mentioned 16% of the time. The following statement from the capabilities manager shows reinforces this data:

> [We have] user community meetings, where we invite G3/5/7 … the G8. … Then it is primarily the PM and our office. … We try to get together twice a year and the purpose of that meeting is to collaborate and to talk out any issues that may come up during the POM or any of the other meetings. So when we go to the Pentagon … and we are briefing something we are on the same sheet of music. … So that is a venue for us to … air out the laundry and then to discuss any issues that we have.

This level of coordination is indicative of an effective group and is evidence of strong structural flexibility. This particular meeting is hosted by one of the stakeholders for the purpose of aligning everyone's priorities and covers a multitude of areas that are outside the direct interest of the capabilities manager, but all members see the value in the common stakeholder position.

Purpose & Strategy were significant to the group of stakeholders because that aspect created the urgency for the group to pursue this strategy. This domain appears 20% of the time during the interviews. From the interview with the PM office representative, it was apparent that the sense of purpose was strong across the community. He had just explained how the collaboration process differences of opinion are a factor, but the issues get resolved and the team moves forward. He continued to explain the complexity and difficulty of this type work but he wanted to highlight how committed the team is to the effort in spite of the difficulty. This comment from the PM office representative illuminates his point on stakeholder dedication and strong sense of purpose: "The great thing about [this] stakeholder community … [is that] they will bend in one form or fashion to ensure that the job gets done and gets done right, things are communicated properly." This domain scored highest on the survey as well. However, as mentioned earlier, this domain is considered an initiating element to collaboration. The data suggest that although this domain is strong in the beginning, it is overtaken by other domains later in the collaboration process.

The People domain scored 31% and only has one factor, individual collaborative capabilities. However, there are two aspects subordinate to this factor that appeared in the transcripts several times and which I thought were worth separating out. The two areas brought out is the idea of *conflict management* and *respect for the professional expertise* of other people. A comment by the G8 during the interview captured the strength of these factors within the stakeholder community:

So, everybody in the room thought that was a great idea and it was actually good because we're all there, all the stakeholders were there at that time, and we were all able to kind of agree. You know, there was some heated discussion here and there in the beginning, but I think we were all pretty much all able to agree that was a good decision that we were going to make.

This is also a clear indication of a stakeholder group sharing the decision-making process, working through conflict, and simply respecting the collective team.

Reward scored the lowest and was rarely mentioned, being referenced only 5% during the interviews. But clearly the stakeholders find their work and efforts rewarding, as shown in this comment from the PM office representative: "The great thing about [this] stakeholder community is they all really are just trying to get people back alive." This quote captures the essence of the type of reward and motivation the stakeholder group shares. It is an intrinsic reward and a sense of accomplishment. An extrinsic reward, through monetary means, could be a factor for the civilian worker; or a positive comment on an evaluation report could incentivize some uniform service members. However, in this group, it did not seem to be an external factor. Therefore, rewards are not mentioned often in the various interviews. However, considering the factor in other settings should not be dismissed based on this study.

This next section provides findings based on the analysis of the data over the course of events that resulted in the successful acquisition strategy decision. The analysis of the interview data provides insight into which domains were dominant at a given time, active but not dominant, and passive. Because this perspective is viewed over time, a linear list will not suffice in explaining the same information.

To track the various factors over time, the Collaborative Activity Matrix (CAM) was developed and is shown in Table 12. The CAM shows the ICC assessment, domain changes through key events, and the involved members of the stakeholder community moving from positions of involvement based on the progression of the program from the POM meeting to the Army Acquisition Executive (AAE) brief.

Table 12.   Collaborative Activity Matrix

The CAM is structured to show the results from the ICC, or static capacity of the stakeholder group, and the active collaboration by key event. Across the top, the column labeled ICC corresponds to the survey results and indicates the collaborative capacity for this group. Next, the key events of this collaborative process are listed: POM meeting, business case analysis (BCA) results, PEO Brief, Deputy for Acquisition and Systems Management (DASM) Brief, and AAE Brief. These events are seen as significant because the stakeholders mentioned each event at various times during the interviews. These events are seen as key because stakeholder involvement increased as a result of each activity.

In this report, the first key event is a program review offsite initiated by the PM in preparation for the upcoming budget cycle. The event is labeled "POM Meeting." The second event is a "BCA Meeting," where the technical results of the defense contractors who have similar products that could meet the government need were analyzed and compared. The third event was the "PEO Briefing" to gain his support for the acquisition strategy. The fourth event was a "DASM Briefing" briefing, also to gain his support for the acquisition strategy. The last briefing was the "AAE Briefing." This was the decision briefing to the AAE to gain approval for the strategy.

The domains are labeled on the middle-left side of the chart. Across the top of the chart, the color green indicates that a domain is dominant, amber indicates that a domain is active but not dominant, and red indicates that a domain is passive.

The bottom portion of the chart is a view of the stakeholder activity during the same events. The eight stakeholders interviewed and surveyed are represented by the number boxes. The stakeholder types are adapted from the Savage et al. (1991) model described in Chapter II.

The stakeholder model and strategy was modified from Savage et al. (1991). The environment, in which this model is applied, differs from the business world. Competition and adversarial relationships, as suggested in the management theories, were not consistent with what was found in this research. Rather, stakeholders on this effort are team players, and all are committed to the organization and purpose. Therefore, for this model, I assessed the stakeholders as follows:

- Type 4: Observers—Strategy: Monitor

- Type 3: Supporters—Strategy: Inform

- Type 2: Facilitators—Strategy: Collaborate

- Type 1: Influencers—Strategy: Involve

The primary changes made to the Savage et al. (1991) model were the engagement strategies. The purpose of the strategies is to increase the level of involvement of the stakeholders. The Type 4 strategy is to "monitor," meaning no increase in communication other than routine activities, meetings, and so forth. All stakeholders are at least Type 4. The Type 3 strategy is to "inform," meaning increase the level of engagement and begin having focused information exchanges. The Type 2 strategy is to "collaborate," which is further increased involvement where the stakeholders in Type 2 are actively working as a part of the key stakeholder community. The Type 1 strategy is to "involve"; at this point, the members of Type 1 are boundary spanning and advancing the stakeholder objectives independently.

A stakeholder can move from one group to another, a movement gauged by the level of involvement. This is reflected in the CAM. The word *strategy* is a carryover from the Savage et al. (1991) model, but it indicates how an engagement might occur with a group of stakeholders in a stage. For example, a Type 4 stakeholder could be the PEO. This person is clearly interested in the program and outcomes, but due to position and responsibility, the PEO is not directly involved in the collaborative activities at the product level. However, once a decision or information brief is presented to the PEO, then the PEO could advocate for the program at the next higher level of authority. Therefore, in this example, the PEO

has moved from Type 4 to Type 3 because the PEO is now more active in the effort. The lower the type numbers within this strategy, the higher the level of activity within the stakeholder group.

The CAM is presented as Table 12 and shows the ICC assessment, domain changes through key events, and the involved members of the stakeholder community moving from positions of involvement based on the progression of the program from the POM Meeting to the AAE Brief.

J.   SUMMARY

This chapter provided the results from three analyses: (1) the analysis of the ICC survey data, (2) the analysis of the interview data, and (3) the analysis of the ICC process through the decision cycle. The results show how various factors enable collaboration. Likewise, the results show that other factors are less present and may serve as barriers to the collaborative process. The interview data show how collaboration unfolds over the decision process. Ultimately, the findings show that collaboration is a complex, dynamic process where various factors seem directly related to the success of the project.

In the next chapter, I discuss theconclusions, recommendations, and implications for managers.

THIS PAGE INTENTIONALLY LEFT BLANK

V. CONCLUSIONS

The purpose of this project was to determine key principles for successful, repeatable collaboration practices within the defense acquisition community. Three questions were created to guide this project:

1. What practices contribute to building collaborative capacity within an Army acquisition program office?

2. What factors facilitated or inhibited collaboration for a successful project?

3. How do collaborative practices, related to critical events involving stakeholders, change over time?

This research project focused on stakeholder collaboration related to a U.S. Army program office. After communicating with and gaining support from the program office, we identified eight stakeholders to participate in this effort. The stakeholders were recruited to participate. Once they had agreed to support this research, I created a data collection plan, which consisted of a 37-question survey and semi-structured interview. The results are explained in detail in Chapter IV and summarized below.

A. ANSWERS TO RESEARCH QUESTIONS

This section answers the guiding research questions for the project.

What practices contribute to building collaborative capacity within an Army acquisition program office?

Successful practices observed in this research project confirmed the stakeholder theories identified in Chapter II. Leaders should take appropriate steps to identify stakeholders involved in an upcoming critical event. It is important to have as much group involvement in this process as possible. A core group of organization members, and also stakeholders themselves, should be asked, "Who else should be involved?" This group should consider their professional network outside of their parent organization. Leaders should categorize these identified individuals according to the management theory and determine the type of engagement strategy most applicable to gain needed stakeholder buy-in at key times and events. It is not practical to have all stakeholders involved in all meetings and events, so the strategy should address what level of involvement is appropriate for each group, while also not under-informing any key member. For example, during this project following the POM briefing hosted by the PM, the G8 representative had a higher level of confidence that this strategy could succeed when he was shown that funding was

available to support the concept. He then became more active in promoting the strategy as a result. The idea mentioned previously about boundary-spanning among stakeholders was shown to be a key attribute among the collaborators. Later in the execution of the strategy, the same G8 representative may not need or have the time to be involved in meetings with a different purpose, such as a technical review. In this instance, this person would be less active and in a higher stakeholder group. The CAM shows this movement of stakeholders across groups as events progress through the staffing process.

What factors facilitated or inhibited collaboration for a successful project?

Table 13, Ranking of Interview and Survey Scores, shows a comparison of the overall results of the data set for the results of the interviews and surveys.

Table 13.   Ranking of Interview and Survey Scores

Domains**										
	Purpose		Structure		Reward		Lateral Mechanisms		People	
	Survey	Interview	Survey	Interview	Survey	Interview	Survey	Interview	Survey	Interview
Overall Domain Rank Survey/Interview	1	4	4	2	5	5	2	1	3	3
Felt Need	1	5								
Strategic Actions	11	7								
Resource Investment	4	10								
Collaborative Structure			9	6						
Structural Flexibility			4	4						
Metrics			13	11						
Support for Individual Collab. Efforts			9	6						
Reward Systems					12	8				
Social Capital							2	3		
Collab. Tools and Technologies							3	11		
Info Sharing							6	2		
Collaborative Learning							8	8		
Individual Collab. Capabilities									7	1

* Numbers in the cells correspond to the ranking of factors from survey and interview results
** Numbers in the cells correspond to the overall ranking of domain from survey and interview results

Dominate	(green)
Active	(yellow)
Passive	(red)

Table 13 shows the domains across the top and factors along the left-hand side of the table. The first row beneath the domain is the overall domain score, subdivided by survey and interview results. The highest mean score from the survey was ranked #1. The highest percent domain from the coded interviews was ranked #1. The next lower scores were ranked #2, and so forth. For example, the Purpose domain scored first according to the survey results (highest mean score) and fourth according to the interview results. The rank for each factor from the survey and the interviews are identified in the body of the table beneath the corresponding domain. For example, Felt Need is a factor within the Purpose domain and is ranked first (strongest) in the survey results and fifth in the interviews. All domains are present

during collaboration but vary in strength. The color coding is as follows: dominant = green, active = amber, and passive = red.

Two primary observations from this table are consistent across three domains: Lateral Mechanisms, People, and Incentives & Rewards. This observation indicates that these domains and associated factors are consistently strong for this particular group of stakeholders. In seeking repeatable successful practices, setting the workplace conditions to enable these domains is proven to be important for a PM or manager. Interestingly, the Purpose domain had the greatest disparity in ranking: the highest ranking from the survey and the fourth of five in the interview. This is explained by Hocevar et al. (2006) and confirmed with this research effort. Purpose is an initiating domain. Of additional significance, it is not apparent that it lessens so much as it is overtaken by the other domains. As the group internalizes the purpose and begins to use other skills, such as boundary spanning, to seek solutions to the problem, the stakeholder community now gains momentum and creates synergy in the problem solving activities.

How do collaborative practices change over time, related to critical events involving stakeholders?

Table 14, Collaborative Activity Matrix, compares collaborative activity as it changed over time. This table was also explained in greater detail in Chapter IV.

Table 14. Collaborative Activity Matrix

Collaborative Activity Matrix

Domain / Stakeholder Types*	Static — ICC	POM Meeting	BCA Results	PEO Brief	DASM Brief	AAE Brief
Purpose & Strategy	Green	Green	Green	Yellow	Yellow	Yellow
Structure	Red	Yellow	Green	Green	Yellow	Yellow
Incentives & Rewards	Yellow	Red	Red	Red	Red	Red
Lateral Mechanisms	Green	Green	Green	Green	Green	Green
People	Yellow	Yellow	Yellow	Green	Green	Green
Stakeholder type 4 — Observers — Strategy: inform	7 8 6	8	8			
Stakeholder type 3 — Supporters — Strategy: monitor	5	7 5 6	7 5 6	7 8	7 8	7
Stakeholder type 2 — Facilitators — Strategy: collaborate	3 4 2	3 4 2		5 6	5 6	5 6 8
Stakeholder type 1 — Influencers — Strategy: involve	1	1	3 4 1 2	3 4 1 2	3 4 1 2	3 4 1 2

1. Program Management Office
2. HQ, Department of the Army G-3/5/7
3. HQ, Department of the Army G-8
4. Department of the Army Systems Coordinator
5. Training and Doctrine Capabilities Manager
6. Program Executive Office-Primary
7. Program Executive Office-Secondary: Systems Integrator
8. Research lab-Technical Advisor

Dominant domain — Green
Active domain — Yellow
Passive domain — Red

*adapted from Savage et. al model

This table shows the interview results in the ICC column and indicates the collaborative capacity prior to the start of the staffing of the acquisition strategy. The stakeholder group moved chronologically from POM meeting to AAE brief. The color code indicates which domains were strongest at different stages of the collaborative effort. On the left-hand side of table, midway down, is the listing of domains. The bottom section contains the stakeholders divided by group (each stakeholder is represented with a dark box with a number that corresponds to the list at the bottom of the table), with each group differentiated by levels of involvement. As the project progresses, the stakeholders become more active, and this change is indicated by the black numbered boxes moving down and to the right.

Collaboration changes over time when members of the team internalize the purpose and strategy. The Purpose & Strategy domain is then overtaken by lateral mechanisms, where members initiate the social aspect to collaboration and extend the network beyond the core members, spanning boundaries to seek information and solutions to problems. Stakeholders and the collaborative domains are dynamic throughout the process. If this study were to continue into the execution of the acquisition strategy, the domains would likely continue to change, with some of the

stakeholders reverting back to less active roles in the process until greater involvement is needed.

B.   LEADERSHIP AND MANAGEMENT IMPLICATIONS

It is important to understand that all of these domains are present and that some are more active at different times during the collaborative process. If a leader can understand that idea and create an environment with the right mix of skilled and empowered individuals, then the essence of collaboration will emerge, and creative solutions to complex problems will be discovered. For managers and leaders, it is imperative to understand the dynamics at play and be able to anticipate and leverage collaborative change with the group as it moves through a process. One of the leadership challenges is keeping all members appropriately involved and informed without wasting their time or inadvertently ignoring a critical member.

C.   FUTURE RESEARCH

There are three areas of future research to be considered. First, this study can be continued but expanded so that the stakeholders include the defense contractors that will produce the product, as well as the contracting staff and the Navy program office; additionally, in a continuation of this study, researchers can observe collaboration during the execution of the acquisition strategy. This is a multi-service approach, and collaboration among these groups could render some useful results.

The second recommendation would be to do a similar study but compare two events, one successful and the other one that had challenges or was unsuccessful. The third recommendation is to study stakeholder collaboration to determine motivation factors for the collaborators. Researchers can attempt to better understand what impact rewards and incentives have or could have on a stakeholder community.

THIS PAGE INTENTIONALLY LEFT BLANK

REFERENCES

Bauer, L. M., & Meeker, M. M. (2011). *An acquisition leader's model for building collaborative capacity* (Master's thesis). Monterey, CA: Naval Postgraduate School.

Chairman of the Joint Chiefs of Staff (CJCS). (2012a). *Charter of the Joint Requirements Oversight Council* (CJCS Instruction 5123.01). Washington, DC: Author.

Chairman of the Joint Chiefs of Staff (CJCS). (2012b). *Joint Capabilities Integration and Development System* (CJCS Instruction 3170.01H). Washington, DC: Author.

Chairman of the Joint Chiefs of Staff (CJCS). (2012c). *Manual for the operation of the Joint Capabilities Integration and Development System*. Washington, DC: Author.

Daft, R. L. (1998). *Organization theory and design.* Cincinnati, OH: South-Western College.

Department of Defense (DoD). (2013). *Defense acquisition guidebook.* Retrieved from https://dag.dau.mil/Pages/Default.aspx

Freeman, R. E. (1984). *Strategic management: A stakeholder approach.* Boston, MA: Pitman.

Friedman, A. L., & Miles, S. (2006). *Stakeholders: Theory and practice.* New York, NY: Oxford University Press.Government Accountability Office (GAO). (2005). *Results-oriented government: Practices that can help enhance and sustain collaboration among federal agencies* (GAO-06-15). Washington, DC: Author.

Government Accountability Office (GAO). (2011). *Defense acquisitions: Application of lessons learned and best practices in the presidential helicopter program* (GAO-11-380R). Washington, DC: Author.

Government Accountability Office (GAO). (2013). *Major automated information systems: Selected defense programs need to implement key acquisition practices* (GAO-13-311). Washington, DC: Author.

Hocevar, S. P. (2010, February, 24–25). *Inter-organizational collaborative capacity: A conceptual model and measurement tool.* Presented at the Fourth Annual Homeland Defense and Security Education Summit, Georgetown University, Washington, DC.

Hocevar, S. P., Jansen, E., & Thomas, G. F. (2006). Building collaborative capacity: An innovative strategy for homeland security preparedness. In *Advances in*

interdisciplinary studies of work teams (pp. 255–274). Bingley, UK: Emerald Group.

Hocevar, S. P., Jansen, E., & Thomas, G. F. (2012). *Inter-organizational collaborative capacity (ICC) assessment.* Monterey, CA: Naval Postgraduate School.

Huxham, C. (1996). *Creating collaborative advantage.* Thousand Oaks, CA: SAGE.

Kirshman, J. N., & LaPorte, M. M. (2008). *An assessment of collaborative capacity of three organizations within defense acquisition* (Master's thesis). Monterey, CA: Naval Postgraduate School.

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach.* Washington, DC: SAGE.

Office of the Secretary of Defense (OSD). (1998). *DoD integrated product and process development handbook.* Washington, DC: Author.

Office of the Under Secretary of Defense for Acquisition, Technology, & Logistics (OUSD[AT&L]). (2007). *The defense acquisition system* (DoD Directive 5000.01). Washington, DC: Author.

Office of the Under Secretary of Defense for Acquisition, Technology, & Logistics (OUSD[AT&L]). (2013a). *Operation of the defense acquisition system* (Interim DoD Instruction 5000.02). Washington, DC: Author.

Office of the Under Secretary of Defense for Acquisition, Technology, & Logistics (OUSD[AT&L]). (2013b). *The planning, programming, budgeting, and execution (PPBE) process* (DoD Directive 7045.14). Washington, DC: Author.

Savage, G. T., Nix, T. W., Whitehead, C. J., & Blair, J. D. (1991). Strategies for assessing and managing organizational stakeholders. *Academy of Management Executive*, *5*(2), 61–75.

Thomas, G. F., Jansen, E., Hocevar, S. P., & Rendon, R. G. (2007). *Field validation of collaborative capacity audit* (NPS-AM-07-123). Monterey, CA: Naval Postgraduate School, Acquisition Research Program.

Thompson, J. D. (1967). *Organizations in action.* New York, NY: McGraw-Hill.

APPENDIX A. SURVEY AND INTERVIEW RECRUITING MESSAGE

Hello,

My name is Joe Blanton. I am currently a Master's of Business Administration (MBA) student at the Naval Postgraduate School (NPS) and will graduate in June 2014. I am beginning an MBA project required for my curriculum at NPS. I am hoping that you will be willing to participate in my study.

My project, which has been approved by PM Sensor and NPS, is a study in the successful collaboration practices among key stakeholders involved with the PM Sensor. Collaboration is widely known as an essential function of a program manager but there is little information on the successful practices of PMs regarding this subject.

I plan to gather data for my study using a short electronic survey and face-to-face interviews. The survey will be sent to you shortly via email and will take about 15 minutes to complete. I will be traveling to your locations 6-15 January to conduct the interviews.

This is a fully funded research effort by the NPS Acquisition Research Program; no expenses are incurred for your participation. There are no known or anticipated risks with this research. Participation in the study is completely voluntary. The surveys and interviews will not use any personally identifiable information. All data will be aggregated to maintain anonymity. Study results will be available to you after I have completed the project.

This project is co-advised by: Gail F. Thomas (office telephone: 831-656-2756) and Brad Naegle (office telephone: 831-656-3620). This project was reviewed and approved by the NPS Institutional Review Board (IRB). The IRB is chaired by Dr. Lawrence Shattuck (office telephone: 831-656-2473)

Please email or call me to confirm your availability to participate in the study. Once you confirm, I'll send you the link for the survey and contact you to set up a date and time for the interview. If you have any questions, don't hesitate to contact me by email or phone. I believe the results will be valuable to the acquisition community as we try to better understand the factors that contribute to successful collaboration.

Respectfully,

Joe Blanton
Telephone: XXX-XXX-XXXX

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B.   SURVEY QUESTIONS

DIRECTIONS: This survey is designed to assess the effective collaboration of the PM Sensor Stakeholder Community (STAKEHOLDER COMMUNITY).

STAKEHOLDER COMMUNITY is generally comprised of personnel from: Program Management Office, HQDA G-3/5/7, HQDA G-8, DASC, TPO, PEO Sensor, PEO Platform, various platform Product Management Offices, contracting staff, and systems integrators. Please take this survey from the perspective of a member of the STAKEHOLDER COMMUNITY.

For the purposes of this survey:
- "Stakeholder" is defined as a person assigned to and represents one of the above organizations (e.g., G8, G3/5/7) and works as a member of a team assembled to focus on stakeholder interests or projects.

- "Collaboration" is defined as a group working together to achieve a desired result and involves sharing information, learning from one another and achieving consensus for a decision.

- "External organization" is defined as an organization that does not have representation within the STAKEHOLDER COMMUNITY.

There are 37 questions and it should take approximately 15 minutes to answer this survey. All responses will be aggregated to ensure anonymity. The survey is voluntary.

Please indicate the degree to which you agree or disagree with each statement. If you would like to go back and change your responses, use your browser's back button.

If an item doesn't seem to apply or you "don't know," check the appropriate box.

	Strongly Disagree					Strongly Agree	Don't Know
Effective collaboration is a high priority for the STAKEHOLDER COMMUNITY.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY recognizes the importance of working together effectively to achieve its mission.	1 2 3 4 5 6 7						
Members of the STAKEHOLDER COMMUNITY understand the purpose and value of effective internal stakeholder collaboration.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY considers the interests of each member's parent organization in STAKEHOLDER COMMUNITY planning.	1 2 3 4 5 6 7						
Leaders of the STAKEHOLDER COMMUNITY work productively with external organizations to improve collaborations.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY has adequate budget and resources to collaborate effectively.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY can quickly form or modify partnerships as requirements change.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY is flexible and responsive in adapting its procedures and practices for more effective collaboration.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY has measurement criteria to evaluate internal collaboration efforts.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY has measurement criteria to evaluate the outcomes of collaboration.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY members are rewarded and recognized for collaborative talents and achievements.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY has adequate human resources to collaborate effectively.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY understands how the other organizations we work with make decisions (external collaboration).	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY takes time to learn about the interests of external stakeholder organizations.	1 2 3 4 5 6 7						
The STAKEHOLDER COMMUNITY has strong							

	Strongly Disagree						Strongly Agree	Don't Know
values and norms that encourage sharing information internally.	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY provides external organizations adequate access to information that is relevant to their work.	1	2	3	4	5	6	7	

	Strongly Disagree						Strongly Agree	Don't Know
Members of the STAKEHOLDER COMMUNITY know who to contact in external organizations for information.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY take the initiative to build relationships with their counterparts in external organizations.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY have strong networks of professional relationships with people in external organizations.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY have the collaborative skills (e.g., conflict management, team process skills) needed to work effectively together.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY understand the capabilities of external organizations with which we work.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY respect the expertise of those in external organizations with whom we work.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY are able to appreciate an external organization's perspective on a problem or course of action.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY are willing to engage in a shared decision making process together.	1	2	3	4	5	6	7	
Members of the STAKEHOLDER COMMUNITY seek input from external organizations.	1	2	3	4	5	6	7	
The members of the STAKEHOLDER COMMUNITY have the authority they need to effectively collaborate together.	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY follows through on recommendations from our representatives on external task forces/tiger teams.	1	2	3	4	5	6	7	
Members are given clear guidance on goals and constraints for their STAKEHOLDER COMMUNITY work.	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY has adequate and appropriate structures (e.g., liaison roles, teams, task forces) for effective collaboration.	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY establishes specific agreements about each organization's roles and responsibilities in collaboration (e.g., STAKEHOLDER COMMUNITY charter and rules).	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY's processes and procedures are structured to enable effective								

	Strongly Disagree						Strongly Agree	Don't Know
collaboration.	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY collaborations are effectively supported by collaborative planning tools and technologies.	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY has the technical interoperability (e.g., information systems) to enable effective collaboration.	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY supports open, truthful interactions with members from external organizations.	1	2	3	4	5	6	7	
Members of STAKEHOLDER COMMUNITY teams treat change as normal and are open and receptive to new ways of doing things (e.g., consider alternative ways of doing things).	1	2	3	4	5	6	7	
The STAKEHOLDER COMMUNITY has a history of working well together.	1	2	3	4	5	6	7	
How many other inter-organizational teams are you currently on aside from STAKEHOLDER COMMUNITY?	Response categories tailored to organization							

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C. INTERVIEW PROTOCOL

Interview Questions:

Term "stakeholder community" or "community" refers to the Sensor Stakeholder Community.

Interview Questions:

1) Who is involved in the Sensor Stakeholder Community?

    a) Program Management Office

    b) HQDA G-3/5/7

    c) HQDA G-8, DASC

    d) TPO

    e) PEO Sensor

    f) PEO Platform

    g) Various platform Product Management Offices

    h) Systems integrators

    i) Contracting Staff

2) Who is missing from this list?

3) Who are the critical stakeholders?

4) Who manages the stakeholder community?

5) How does the membership of the stakeholder community change when the decisions occur at different times in the acquisition lifecycle?

6) Think of specific project that had a favorable outcome. Describe how collaboration occurred within the stakeholder community over the various phases of the project.

THIS PAGE INTENTIONALLY LEFT BLANK