

KNOWLEDGE TRANSFER LOSS IN A BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENT: A POSITIVE OR NEGATIVE ACQUISITION PARADIGM SHIFT

SSCF RESEARCH REPORT



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**Stanley M. Niemiec
Senior Service College Fellowship**

**Project Adviser:
Darlene Urquhart
Senior Service College Fellowship
Defense Acquisition University
Aberdeen Proving Ground, MD**

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ABSTRACT

Decisions made by elected and political, appointee government leaders, military, and Department of the Army civilian managers and supervisors—whether policy or constituent driven—can affect operations of acquisition organizations significantly. Established standards and procedures of such organizations can be altered, with significant impacts on daily and long-term administrative processes and routines. It is challenging to mitigate these impacts when they include “known unknowns” (where general impact has been identified but its magnitude has not).^{*} It is even more challenging when impacts occur that are utterly unanticipated (and originate from unknown unknowns)^{*} and are felt universally and instantaneously at every level of the acquisition process. Regardless of intent, these decisions can be a potent force for a positive or negative paradigm shift within an acquisition organization. Over the past 30-plus years, management verdicts and legal mandates—including downsizing, reductions in force, and Base Realignment and Closure decisions—have dramatically altered the Army community and, more specifically, the Army Acquisition Workforce’s ability and capacity to support the warfighter customer.

This study researched the impact of the decision to relocate a large Army Acquisition Workforce from one state to another, and focused on the knowledge transfer from the original New Jersey-based workforce circa 2005 to the current Maryland-based workforce post-2011. Both professional and personal life-changing transitional impacts were considered. The study is based on a single acquisition domain (Army Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance), but its implications may be applied by leaders universally to other acquisition organizations considering or being considered for major relocations. Specifically, the study researched the knowledge transfer process that occurred in the Base Realignment and Closure 2005-2011 relocation of the Army Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance workforce, the resultant demographic changes imposed on it through loss of significant numbers of experienced personnel and the infusion of new talent, ranging from young graduates fresh out of college with no professional experience through former military personnel with no electronics training and/or acquisition background. The study also touched on the impact of generational mindset shifts due to the loss of a large percentage of more mature/seasoned workers and the equivalent gain

presented by a much younger workforce. It included differences in expectations, social dynamics, and work ethic—and how these factors appear to impact the organization’s ability to support its customer. It also addressed interactions with Army Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance’s sister organizations and the Army community.

THESE TERMS WERE IN USE WITHIN THE UNITED STATES MILITARY ESTABLISHMENT LONG BEFORE 2002. AN EARLY USE OF THESE TERMS COMES FROM A PAPER ENTITLED “CLAUSEWITZ AND MODERN WAR GAMING: LOSING CAN BE BETTER THAN WINNING” BY RETIRED U.S. AIR FORCE LT. GEN. RAYMOND B. FURLONG, GENERAL, USAF (RET.) IN THE *AIR UNIVERSITY REVIEW*, JULY–AUGUST 1984: “TO THOSE THINGS CLAUSEWITZ WROTE ABOUT UNCERTAINTY AND CHANCE, I WOULD ADD A FEW COMMENTS ON KNOWN UNKNOWNNS AND UNKNOWN UNKNOWNNS—THOSE THINGS THAT A COMMANDER KNOWS HE DOESN’T KNOW AND ALSO DOESN’T EVEN KNOW HE DOESN’T KNOW. PARTICIPANTS IN A WAR GAME WOULD DESCRIBE AN UNKNOWN UNKNOWN AS UNFAIR, BEYOND THE GROUND RULES OF THE GAME. BUT REAL WAR DOES NOT FOLLOW GROUND RULES, AND I WOULD URGE THAT GAMES BE ‘UNFAIR’ BY INTRODUCING UNKNOWN UNKNOWNNS.” IN OTHER WORDS: *WE KNOW THERE ARE SOME THINGS WE DO NOT KNOW; WE KNOW THERE ARE THINGS WE DO NOT KNOW THAT WE DON’T KNOW.

CHAPTER 1

INTRODUCTION

Introduction

The U.S. Army Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Center of Excellence (CoE); also referred to as Team C4ISR, when located at Fort Monmouth, NJ, operated as the hub of the Army's total acquisition and sustainment effort for C4ISR equipment, systems, and networks. It consisted of a highly professional military and civilian workforce that planned, integrated, and conducted experiments, research, development, acquisition, procurement, and sustainment of communications and communications-support equipment to sustain warfighters and decision-makers at every level from the foxhole to Washington, DC. The New Jersey-based organization supported the Department of Defense (DoD) and myriad other federal, state, and local government agencies, and was engaged in peacetime through support of Countering Violent Extremism (CVE), formerly known as both Overseas Contingency Operations (OCO) and Global War On Terrorism (GWOT). As such, maintaining, developing, and sustaining this workforce (both acquisition and other) were critical to the C4ISR mission.

In November 2005, Congress, acting on the recommendations of the Secretary of Defense (SECDEF) and the president put into effect the Base Realignment and Closure (BRAC) Act of 2005, which mandated, among many other things, the closure of Fort Monmouth, NJ. A goal of the BRAC 2005 was to reduce the DoD's geographic footprint by more than all previous prior BRAC rounds combined. More germane to this research topic, the decision required relocating all C4ISR activity—the majority of which occurred at Fort Monmouth, NJ, Fort Belvoir, VA, and Redstone Arsenal, AL—consolidating it onto Aberdeen Proving Ground (APG), MD, not later than (NLT) September 15, 2011. President Bush signed this decision into law in December 2005; thereby “Implementing the largest base realignment and closure plan in history” (Peters, 2010).

Over the next 6 years, this law effected the largest single transfer of mission, function, and personnel ever by a BRAC decision, and resulted in a major upheaval of the Army's C4ISR community. Though significant losses of personnel occurred early in the process, the majority of the relocation occurred late calendar year 2010 through September 2011. Now that the relocation of thousands of functions and personnel has concluded, the question lingers: Has the ability of

Team C4ISR to perform its acquisition, administrative, and sustainment mission in a timely and professional manner increased, decreased, or remain unchanged?

Background

Using the legislative tool known as BRAC over the past two decades, Congress and the DoD have sought to reduce the footprint of the DoD worldwide by consolidating the many forts, posts, bases, and other DoD facilities. A stated goal of BRAC 2005 was to, through its consolidations, exact fiscal and operational efficiencies all-inclusively. As part of the 2005 BRAC, Team C4ISR was relocated from Fort Monmouth, NJ, Huntsville, AL, and Fort Belvoir, VA, to APG, MD, with escalating impacts during November 2005 through September 2011. The cumulative effect on acquisition knowledge and experience loss to warfighter support is not easily or exactly quantifiable but is recognized at all levels as very crucial. The SECDEF's original justification stated that: "The closure of Fort Monmouth allows the Army to pursue several transformational and BRAC objectives. ... Commission Findings: ... the Commission found that loss of some intellectual capital is a concern and is to be expected in this closure, and agreed with the DoD's view of this as an implementation challenge that must be managed with careful planning and sequencing. In its justification, the DoD pointed out that there is a nationally recognized science and technology workforce in MD containing the highest percentage of professional and technical workers (about 24 percent). The Commission concluded that adverse effects of moving existing programs could be managed over the 6-year implementation period by properly sequencing the movement of programs to ensure no loss in service, or by providing temporary redundant or duplicative capabilities as necessary to ensure continuous and uninterrupted program integrity. The Commission was also told by the Secretary of the Army that under no circumstances would the Army permit the move to sacrifice or shortchange ongoing C4ISR support and services to warfighters in the field." (BRAC, Department of the Army, November 2011)

Adding to the dilemma faced by all levels of Team C4ISR management concerning the retention of both the knowledge and workforce were the local municipalities and New Jersey state offices vying to maintain the economic health of the Monmouth area through capitalization of the many personnel considering not relocating to APG. "In addition to the professional and technical skills inherent in the BRAC impacted workforce; their secure work methods, background checks, and security clearances, as well as their institutional knowledge of the

Army's C4ISR and procurement operations, are extremely valuable and very difficult to duplicate. Current government contractors who support DoD and DHS [Department of Homeland Security] are publicly reporting difficulty in recruiting employees with both security clearances and requisite technical knowledge and experience. The Partnership can develop a program to identify which current employees have the clearances and skills that meet the requirements of current NJ government contractors, as well as other contractors who have the interest to establish operations in NJ in order to access the capabilities of the workforce. ...” (ESOP Advisors Inc., 2007).

C4ISR equipment, systems, networks, and sustainment acquisition have been (and remain) crucial to our national defense and the intense and decisive combat our warfighter customers must engage in. An experienced professional C4ISR acquisition community had provided quality, performance, and reliability as the norm—and the warfighting customer expects and deserves at least this level in the present and future. This is true whether that customer is actively engaged in close combat, on the training range, or in a garrison preparing for tomorrow's fight. Acquisition in this context refers to all the research, development, testing, acquisition, contracting and sustainment operations, facilities, and workforce wrapped into the process of acquiring C4ISR for the Army and other traditional and nontraditional (e.g., Homeland Security) warfighter customers. To this end, the Fort Monmouth-centered organizations involved in this process are collectively known as Team C4ISR, and consist primarily of: ACC-APG (Army Contracting Command) Monmouth (now APG), CECOM (Communications Electronics Command), CERDEC (Communications Electronics Research, Development and Engineering Center), PEO C3T (Program Executive Office: Command, Control, Communications Tactical), and PEO IEW&S (Program Executive Office: Intelligence, Electronic Warfare, and Sensors).

Purpose

The BRAC 2005-mandated total relocation of Team C4ISR was expected to result in a significant loss of experienced and certified acquisition professionals who would choose not to relocate from the three losing geographic areas to a new consolidated campus at APG, MD. This was in large part due to their age and stage of career—imposing the relocation at a time that greatly increased the probability of major personnel losses. Compounding the challenge, the Defense Secretary in April 2009 released the Defense Acquisition Workforce Report, 2010,

which stated there would be an increase in the overall DoD acquisition workforce by at least 19,987 in FY [fiscal year] 2009 through FY 2015 (OSD, 2009). Also, at an Army Acquisition Workforce General Officer/Senior Executive Service (GO/SES) quarterly briefing, the Office of the Secretary of Defense (OSD) estimated that Army Acquisition alone across the Five-Year Defense Plan (FYDP) would grow by 5,085 (Bolton, 2004). The (1) expected loss of experienced acquisition professionals that would not BRAC to APG and (2) the expected influx of newly hired C4ISR personnel at APG (via either in-sourcing, new hires to government, or hiring people with previous government experience who are new to acquisition) further demonstrated the crucial need to ensure that knowledge transfer from nonrelocating incumbent C4ISR personnel was robust enough to develop new C4ISR workforce professionals.

The objective of this study was to collect both the subjective and qualitative input and opinions of the middle and upper leadership of the five major commands comprising Team C4ISR that were affected by the BRAC Act of 2005. We sought to assess the quality, timeliness, and accessibility of knowledge-based activity before and after the mass transfer of all research, development, testing, acquisition and sustainment operations, facilities, and workforce. Once collected, the raw data were analyzed and the resultant information processed to determine the status of C4ISR knowledge and support to the end user since full compliance with the BRAC 2005 Law. The study also yielded perceptions regarding the potential influence of both a changed cultural environment and the paradigm shift brought about by this mandated change in generational demographics: Traditionals: (born between 1920-1945), baby boomers (born between 1946-1964), Gen-Xrs (born between 1965-1980), Millennials (born between 1981-1990), and iGenerational (born between 1991 and today).

Research Questions

1. Q1: Did knowledge transfer before, during, and after the relocation of organizations result in positive, negative, or no change support to the warfighter customer?
2. Q2: Did the replacement of significant numbers of workers by new workers result in an organizational paradigm shift (i.e., Has the organization's culture significantly changed)?

Research Hypothesis

1. H1: A counterintuitive **POSITIVE** impact:

Among both new and incumbent workforce supervisors, there is a perception of an increase in C4ISR knowledge and improved support to the end warfighter customer or user since completion of the BRAC 2005.

2. H2: The intuitive and feared **NEGATIVE** impact:

Among both new and incumbent workforce supervisors, there is a perception of a decrease in C4ISR knowledge and/or support to the end warfighter customer user since completion of the BRAC 2005.

3. H3: A counterintuitive **NEUTRAL** impact:

Among both new and incumbent workforce supervisors, there is a perception of no perceptible change in C4ISR knowledge and support to the end warfighter customer or end user since completion of the BRAC 2005.

Significance of the Study

This study provides data and information about the impact of congressional and DoD base downsizing/consolidation on the Army C4ISR mission, driven in large part to allow the closure of Fort Monmouth. It assesses the specific effect of expected (and in some cases actual) major workforce turnover within a large and complex acquisition and sustainment organization on resultant warfighter customer support and the performance of the acquisition process (positive or negative). It seeks to determine whether sufficient knowledge was transferred from the pre-BRAC older/more experienced/seasoned workforce, to the post-BRAC new and younger/less experienced workforce. The study is centered on the strategic objective of the BRAC and is necessarily based on the subjective perceptions of members of the Tier 1 and 2 leadership of the five major Army C4ISR organizations: ACC-APG, CECOM, CERDEC, PEO C3T, PEO IEW&S.

These perceptions of knowledge transfer success or failure focus on the quality, timeliness, and thoroughness of overall warfighter support. The study examines whether the impact of geographical relocation (and associated workforce turnover) significantly degraded, enhanced, or maintained these organizations' abilities to successfully provide warfighters with state-of-the-art C4ISR equipment at all stages of the acquisition life cycle.

“Knowledge management is above all else about people—about what they know, what they need to know and how they can help each other and their employees work well and prosper.” (Carter & Associates, July 2001)

Methodology Overview

This research study was designed as a nonscientific/work-culture survey of senior- and middle-management leadership personnel involved in the research, development, test, sustainment and operations, acquisition, and contracting of extensive numbers and types of Army C4ISR staffs, equipment, systems, and networks. The study as implemented solicited their candid and unattributed opinions on the quality, timeliness, and thoroughness of all aspects of supporting the warfighter with state-of-the-art C4ISR equipment throughout the acquisition life cycle. Survey participants were divided into two groups: senior leaders and mid-upper-level managers (Tier 1 & 2). No distinction was made on how long the participant served in the position surveyed, though surveys were designed to allow for this demographic to be parsed, if necessary, for future use. Both subjective and objective assessments were solicited by the survey.

Organizational “buy-in” was established via e-mail agreement between the most senior leaders of ACC-APG, CECOM, CERDEC, PEO C3T, PEO IEW&S, and the survey leader (Appendix C). Assigned Points of Contact (PoCs) from the five major C4ISR organizations provided the survey leader with the current organizational leadership’s e-mail addresses that were then uploaded to the survey instrument. The survey instrument itself was implemented via SurveyMonkey, and invitations to participate were individually delivered to all participants, who were assured of anonymity and nonattribution. Each participant was given the option to participate or decline. Survey results were analyzed to quantify the participants’ perception of knowledge transfer or loss due to the BRAC 2005 move and the impact this may have had on their organizations’ ability to successfully support their warfighter customers. Participants also were asked their opinions on whether generational idiosyncrasies played a part in how knowledge was transferred between new employees and those incumbents who did not transfer with their positions.

Scope, Limitations, and Deductions

The scope of the research project was limited in several ways. First the research paper was purposely limited to the top five relocated C4ISR organizations: ACC-APG, CECOM, CERDEC, PEO C3T, PEO IEW&S, and their subordinate organizations (a complete list is available in Appendix C). Second, the study included these organizations’ key leadership (upper-level [senior] and mid-upper level [known as Tier 1 & 2]) only. The survey was not extended to the Tier-3 [first-level] management or the workforce at large. A concern with

including these levels was that doing so could have introduced a significant amount of unhelpful emotional and individual-based input (positive and negative) that would have skewed the study from its intended, more strategic purpose. Similar organizations' locations also affected by the BRAC 2005 Law were not included as this would have exceeded the manageable scope of the study. Managers who had left the organization through retirement, job transfer, or separation were not included.

This research paper did not address objective measures of knowledge transfer, performance, or quality as conditions before, during, and after the BRAC realignment did not allow it to do so. The study could only proceed based on leaders'/managers' perceptions rather than objective performance measures. The study attempts to develop an assessment despite the unscientific and uncontrolled environment. It is focused on the objective and subjective opinion and strategic perception of key leaders from across the spectrum of the acquisition Team C4ISR community, with solicited input on refined scope from the target audience. While the study may answer research questions about the perception of C4ISR knowledge transfer before, during, and after the BRAC, it does not isolate knowledge transfer as the only reason for quirks or outlier data points. Other factors may have affected perceptions, such as (1) military experience, (2) post-traumatic relocation emotion on a leader's part, (3) less-than-careful responses to the survey question(s), and (4) isolated survey instrument failures.

Assumptions

- A. The term leader was understood to include all official and slang terms associated with it (e.g., manager, supervisor, chief, boss, director, officer and/or person in charge, etc.).
- B. Survey respondents were candid and serious about their responses.
- C. Informal nonattribution individual and group discussions would result in more anonymous, candid, and honest opinions and knowledge transfer actions/in-actions,
- D. A percentage of respondents were new to their position during/after BRAC,
- E. The prevention of degradation to mission continuity to the warfighter throughout the Team C4ISR move from Fort Monmouth, Fort Belvoir, Huntsville, etc., to APG was contained via processes outlined in the Team C4ISR BRAC Strategic Plan.
- F. A postmortem objective assessment of true customer support degradation or improvement is not yet feasible as it will take at least a full year for some aspects to mature.

- G. All surveyed organizational assets have finished their BRAC relocation.
- H. Post-BRAC workforce drawdowns were not a skewing factor in knowledge transfer and survey support as these have not yet been fully determined, much less implemented.
- I. Knowledge capture and transfer for a BRACing organization is no different than when losing a single worker for any reason. It has just occurred on a more imposing scale.
- J. Knowledge capture and transfer is a level 1 and 2 leadership issue 24/7.

Definitions of Key Words and Terms

See Glossary of Acronyms and Terms.

CHAPTER 2 LITERATURE REVIEW

Introduction

This literature research examined books, articles, journals, other research reports and studies, and focused on academic, professional, and government documentation, studies, and other applicable research papers regarding knowledge transfer in static and dynamically evolving organizations, as well as a limited review of documentation and research papers regarding generational impact on organizational knowledge use, transfer, and methodology. It was not meant to be an all-inclusive nor a scientific review. The review then explored actions these organizations took, are taking, or need to take to apply these findings to the needs and expectations of the C4ISR total workforce.

Team C4ISR's near-term concern, as a result of both the 2005 BRAC and the two concurrent Acquisition Corps growth initiatives, was not only whether it will have the right people in the right places, but whether it would have enough human capital properly in place with the adequate C4ISR acquisition and sustainment skill sets and historical knowledge to support the warfighter customer. Or could the organization provide a sufficient and expanding level of performance talent (a.k.a. knowledge transfer) following the "brain-drain" that comes with such a large-scale relocation of job positions away from a longstanding and eligible-to-retire talent pool. *Execution: The Discipline of Getting Things Done*, by Larry Bossidy and Ram Charan, makes the case that having the right people in the right place is "one job that no leader should delegate" (Bossidy, 2002, p. 109). Therefore, the literature review begins with an overview of the Team C4ISR's BRAC key leader knowledge transfer policies, methods, and objectives. It then explores relevant research papers in the areas of generational mix, civilian talent management, and mentoring. Academic research is enhanced further by reviewing other pertinent concepts of knowledge transfer and, where possible, the results that followed such transfers. The criteria for selecting the research were currency and relevance to the issue of knowledge transfer practices or lessons learned.

Sources

The following Department of Defense (DoD) and Army Acquisition policy documents are relevant to the current study—in the following ways:

1. In a Memorandum of Agreement (MOA) between the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(AL&T)) and Commanding General (CG) Army Materiel Command (AMC), Creation of Life Cycle Management Commands, August 2004, the honorable Claude Bolton, ASA(AL&T), along with the Commander of the Army Materiel Command (AMC), GEN Paul J. Kern, created Life Cycle Management Centers (LCMCs) to align AMC Major Subordinate Commands (MSC) with appropriate PEOs “that formalized the process of bringing together the sustainment part within the materiel command and the acquisition side. The idea is to grow the staffs and the processes together; bring ‘em together! One PEG, and call it the life-cycle PEG. The job is to figure out what capability is needed over the program objective memorandum—DoD’s 5-year planning horizon—by year for the soldier. Not, what is acquisition supposed to be doing? Not, what should logistics do? But, together, how do you put that to the field to make it work? We see nothing that should stop us except ourselves. There are no statutes to prevent us from doing this” (Bolton, 2004).
2. In the BRAC Commission Findings and Recommendations, November 2005 (specifically pp. 10-11, the commissioners spelled out their concerns that such a large-scale move by the Army in relocating the entire C4ISR community from Fort Monmouth to APG would potentially result in such a large-scale loss of knowledge as to significantly impact the combatant warfighter, and directed the DoD to take all needed steps to ensure no such detriment occurred. “The Commission concluded that adverse effects of moving existing programs could be managed over the 6-year implementation period by properly sequencing the movement of programs to ensure no loss in service, or by providing temporary redundant or duplicative capabilities as necessary to ensure continuous and uninterrupted program integrity. The Commission was also told by the Secretary of the Army that under no circumstances would the Army permit the move to sacrifice or shortchange ongoing C4ISR support and services to warfighters in the field” (BRAC, 2005).
3. In the *Defense Acquisition Workforce Report 2010*, Robert Gates (SECDEF) laid out where, over the next 5 years, he envisioned the Acquisition workforce going and an increase in the overall DoD Acquisition workforce by more than 19,987 in FY 2009 through FY 2015 (SECDEF, 2009).

4. During an Army Acquisition Workforce GO/SES quarterly briefing in 2009, “OSD estimated that Army Acquisition Growth alone across the FYDP will be 5,085” (SECDEF, 2009).
5. In the *Final Analysis of the Viability of Reconstitution of the Technical Workforce of Fort Monmouth, New Jersey, and its impact on Regional Revitalization*, November 2007, the county of Monmouth in partnership with the state of New Jersey and the private business sector teamed to minimize the impact of the huge loss to the area from the 2005 BRAC. The approach was a multipronged and aggressive attempt to bring in private sector jobs that would attempt to capitalize on the preservation of the skilled workers who chose not to move to APG, MD, with already in-place and new commercial ventures in New Jersey. The approach also was to expand into other federal areas not yet a part of the local environment, such as other non-Army defense, homeland security and security missions (ESOP Advisors Inc., 2007).
6. In the Project Manager (PM) *NV/RSTA* (Night Vision Reconnaissance, Surveillance, Target Acquisition) *BRAC (Draft) After Action Report, Relocation of NV/RSTA Organizations PM RUS [Robotics and Unmanned Sensors]//PM Radars /NV BMD from Fort Monmouth, NJ, to Aberdeen Proving Grounds, MD*, September 2011, the PM looked at how the BRAC at Fort Monmouth was affecting his organizational elements and what could be done to mitigate the near- and far-term results of that move. The relocation of mission and more than 232 positions all were successfully completed, with 82 percent of the workforce making the move to APG even though only 50 percent originally planned to move. Throughout the BRAC years, the PMO (Project Manager Office) conducted multiple assessments of personnel intent and mission continuity to ensure it was meeting its mission and taking care of its workforce. The PM revalidated its authorized positions, restructured and redistributed its workforce, and worked closely with government personnel offices to aggressively hire and train new employees and fill critical positions as early as possible at APG so knowledge capture and transfer could take place ahead of the losses (PM NV/RSTA, 2011).
7. In the *Team C4ISR's Plan to Implement 2005 BRAC Law, 2006*, the senior leadership of the five main C4ISR organizations moving from Fort Monmouth, NJ, to APG, MD, agreed to a specific set of goals to ensure a successful move over the BRAC time-period.

The Team C4ISR BRAC relocation was expected to result in major personnel losses with the coupled loss of knowledge: nontranscribed daily and historical knowledge, business processes, and business relationships, organizational culture, etc. To mitigate this huge expected upheaval, the senior leaders of Team C4ISR published their early calendar year 2006 mission, vision, and BRAC move plan titled: *Team C4ISRs Plan to implement the BRAC 2005 Law*. The Army Team C4ISR BRAC Mission was supported by eight enduring Strategic Goals (Team C4ISRs Plan, 2006) of which Number 3 and Number 7 are directly relative to this research and due to this very direct relevance are laid out in their entirety below:

“• **Strategic Goal 3— Human Capital:** Ensure a trained and ready workforce is in place through BRAC transition and beyond, while taking care of people” (Team C4ISRs Plan, 2006).

“A. **OBJECTIVE:** Conduct organizational assessments of human capital requirements in consideration of current skills and future needs, including individual employee intents with regard to accepting relocation. An ongoing assessment of Army Team C4ISR human capital requirements will help refine and adjust Army Team C4ISR human capital plans in accordance with the latest, best, and most reliable data about employee plans and intentions regarding BRAC. This assessment will help ensure Army Team C4ISR accurately projects its skill gaps and recruitment and retention needs related to BRAC.

“INITIATIVES:

- “Identify projected critical skills gaps, and how to best use recruitment, retention, and relocation incentives, and other human resources tools to close the gaps.
- “Anticipate hiring needs and begin hiring for critical skills before significant losses are experienced, with particular emphasis on ensuring continuing support to GWOT and other contingency operations.

“B. **OBJECTIVE:** Retain critical skills up to closure as Army Team C4ISR hires the successor workforce in anticipation of significant losses. It must retain experienced employees to both ensure mission continuity, and train and develop newer employees.

“INITIATIVES:

- “Use retention incentives to facilitate retention of critical skills.
- “Continue to offer technical, business skills, leadership and professional development training to our entire workforce.

- “Where appropriate, rehire retirees as reemployed annuitants to retain their skills and expertise.
- “Regardless of when an employee’s position transfers to APG, minimize involuntary separations until the conclusion of all BRAC transfers, i.e., September 15, 2011.

“C. OBJECTIVE: Maximize relocation of the current and future workforce. Although prudent planning dictates that Army Team C4ISR anticipates significant losses of experienced employees, it will continue to use the appropriate tools and pursue initiatives to encourage the maximum percentage of the workforce to relocate to APG.

“INITIATIVES:

- “Use relocation incentives to help ensure that a sufficient number of employees with critical skills relocate to APG.
- “Provide timely and relevant information to employees regarding relocation benefits via briefings, brochures, web sites, etc.
- “Hold annual relocation fairs to provide information on APG area and the benefits of relocation.
- “Use telework to increase the percentage of employees who transfer to APG, as well as to help ensure mission continuity during and after the relocation.
- “Effectively orient and assimilate new employees to maximize their relocation.
- “Where appropriate, hire spouses of current employees to ease the transition of dual income families, encourage more families to transfer, and help fill vacant jobs at APG.
- “Personnel G1 will propose legislation to provide hiring preference for status (i.e., currently employed by the Federal Government) spouses of relocating employees.
- “Personnel G1 will propose Executive Order to give nonstatus (i.e., not currently employed by the Federal Government) spouses the ability to apply for jobs at BRAC installations in a streamlined fashion, without the need for the Delegated Examining Unit (DEU) process. ...” (Team C4ISRs Plan, 2006).

“• **Strategic Goal 7—Knowledge Management**: Preserve knowledge through the capture and sharing of documents, official records, business processes, and authoritative data to achieve split-based operations, orientation of new personnel, business process improvements, and improved decision making. ... (Team C4ISRs Plan, 2006).

“A. OBJECTIVE: Develop policy, procedures, and business rules to capture, preserve, or dispose of documents and official records to support split-based operations and statutory and regulatory compliance. Policies, procedures, and business rules must be developed to organize, transport, or dispose of hard copy and digital records in accordance with applicable statutes and regulations. This will provide a framework for effective and compliant management of information and a foundation for implementing automated solutions. These efforts will decrease the risk of losing critical information, minimize potential security incidents related to inadequate safeguarding of sensitive information, and decrease transportation and storage costs.

“INITIATIVES:

- “Develop Command policy and Command and organizational procedures to manage critical documents and achieve compliance with statutes and regulations governing the life cycle management of official records.
- “Conduct Command-wide training to promote community understanding and acceptance of document management and compliance requirements for the life cycle management of official records. Customize this training to unique scenarios associated with the BRAC relocation.
- “Develop a guidebook, e.g., ‘Document and Records management for Dummies’ that provides practical information geared to BRAC relocation scenarios.

“B. OBJECTIVE: Implement automated Document Management and Records Management capabilities to support enterprise and organizational requirements, facilitate retrieval of information, and achieve legal and regulatory compliance. Digitization of documentation and workflow processes utilizing automated systems will capture and preserve unstructured information, e.g., documents, spreadsheets, briefings, e-mail messages, etc. that are critical to mission execution. This information will be made available through secure web-based capabilities accessible by the workforce from any location supporting split-based operations, and will enable sharing of information required to execute the mission.

“INITIATIVES:

- “Identify, document, and share knowledge of existing legacy systems.

- “Implement an enterprise-wide web-based document and records management system to capture, store, and provide access to command documents. Integrate with Legacy and Higher Headquarters systems doing similar records and document management.
- “Provide command policy, guidance, and governance to manage the implementation of this objective.

“C. OBJECTIVE: Implement online Business Process Management (BPM) capabilities for split-based operations, orientation of new employees, and process improvement. BRAC is also a transformational catalyst for business process improvement. Business processes will be documented utilizing automated tools that greatly simplify their modeling, assessment, and improvement. Documenting processes in an automated system will be invaluable in teaching new employees about processes and how to execute them, as well as providing performance data to drive analysis for improvements. These capabilities will reduce risks associated with integrating new members into the workforce, enable processes to be executed from split-based locations, identify opportunities for savings, and provide flexibility to adjust to future demands.

“INITIATIVES:

- “Identify, model, and webify business processes using enterprise tool suites
- “Assess, prioritize, and start to improve and integrate business processes using Lean Six Sigma, Capability Maturity Model Integration (CMMI), or other quality management techniques. This is a long-term and continuous objective that will ramp up prior to the BRAC relocation, but continue indefinitely.
- “Establish a Business Intelligence (BI) Integrated Product Team (IPT) to coordinate and understand the command authoritative data and expand utilization of BI across the command.

“D. OBJECTIVE: Deploy and utilize collaboration tools for split-based operations, telework, new employee social-networking, and improved team-based performance. Online collaboration is essential to support telework and split-based operations. Many tools such as teleconferencing, desktop video conferencing, chat, and team document storage are available today but are widely underutilized. These tools will be explored, leveraging existing capabilities where appropriate and investing in new ones as requirements demand.

“INITIATIVES:

- “Provide training and evolve the organizational culture to better accept and utilize the capabilities of modern collaborative tools for distributed team performance, telework, and split-based operations.
- “Implement collaborative tools, including teleconferencing, desktop video conferencing, chat, discussion lists, wikis, web logs, etc.

“• Risk Assessment:

“The mission to provide C4ISR equipment and sustainment efforts to warfighters is critical not only to supporting the GWOT, but in transforming the Army. The relocation of the C4ISR mission and personnel associated with the BRAC 2005 decision carries attendant risk in four key areas: maintaining a viable workforce, the availability of facilities, information technology capabilities, and the physical movement of people and equipment.

“A trained and ready workforce must be in place before, during, and after the relocation to APG to ensure mission accomplishment. The Army Team C4ISR workforce will change significantly in the coming years. Many members of today’s workforce will retire prior to closure; others may remain until Fort Monmouth is closed. There is a potential for significant personnel losses in many critical skill areas, including engineers and scientists, logisticians, acquisition professionals, business analysts (financial, program, human capital) and others in a shortened time frame. Mitigating risk in the workforce area will require Army Team C4ISR to conduct extensive hiring, as well as, maximize the retention and relocation of its current workforce. Conversely, it is anticipated that hundreds of new employees will join the CECOM LCMC workforce in the next few years. The overall focus is on the need to attract, train, and retain the transitional workforce and the workforce of the future. This Plan outlines goals and objectives that will enable the Army Team C4ISR to alleviate risk relative to sustaining the workforce” (Team C4ISR’s Plan, 2006).

“... Effectively moving the mission and the people, while at the same time maintaining security and accountability is the challenge at hand. This Plan identifies an approach to lessen the risk relative to the logistics of the BRAC relocation. Taken individually, each of the four risk elements presents a challenge. Taken in the aggregate, the risk could be significant. However, Army Team C4ISR has considered the threats that are present. This Plan presents a framework to mitigate risk by defining key goals and objectives that will form the basis for an integrated and

coordinated implementation plan. The success of that implementation plan is dependent upon the continued focus of the entire Army Team C4ISR” (Team C4ISRs Plan, 2006).

“... • Conclusion:

“The substantial role of Army Team C4ISR in ensuring continuous and uninterrupted support its entire mission, to include the GWOT and other critical contingency operations, is addressed in this plan. In planning for and implementing the BRAC recommendation to close Fort Monmouth, the human resources, facilities, information technology, and relocation phasing that Army Team C4ISR requires to continue support to all its missions have been diligently analyzed. The risks have been defined, the strategies to mitigate those risks developed, and the imperatives necessary to resource those strategies identified. With continued and proactive support from DA [Department of the Army], DoD, and Congress to resource the imperatives and strategies specifically identified throughout this plan, Army Team C4ISR can successfully execute the extremely complicated and highly technical relocation to APG, MD, by September 15, 2011. ...” (Team C4ISRs Plan, 2006).

Figure 1 depicts the central capture of already existing technical, program, and personal e-mail data. A key feature of knowledge capture and management was the Team C4ISR move of this already captured data on each of the organizations main shared drives (named U drives) to one more central system known as FileNet: “Team C4ISR went from 33 terabytes of unstructured data server ‘U’ drive formats to organization FileNet document libraries with full search capabilities eliminating duplicate information and moving archive data to ARIMS [Army Records Information Management System]” (O’Connor, 2009).

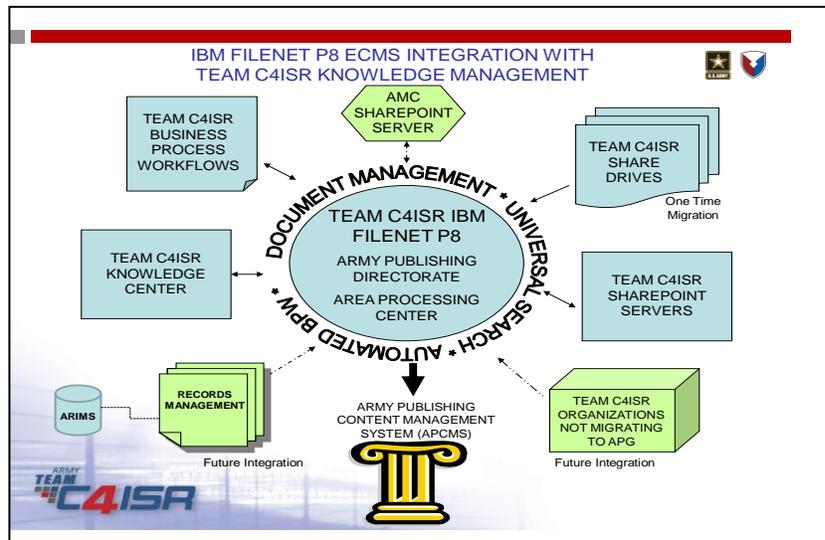


Figure 1. Team C4ISR ECMS Integration

Source: BRAC Knowledge Capture, Patricia O'Connor, CECOM LCMC CIO/G6, 3 AUG 09, slide 5

A summary of Professional Sources reviewed follows:

1. In *Getting change right: How leaders transform organizations from the inside out*, Seth Kahan “lays out a communication model that moves knowledge transfer to a shared construction of communal understanding. When an organization’s people are having the right conversations and interactions, then they are sharing knowledge that transitions with the collective whole and is not lost when an individual falls out of the group for any reason” (Kahan, March 2010).
2. In *Meeting the innovation challenge: Leadership for transformation and growth*, Joe Tidd “creatively integrates leadership and management and provides insights into a more systematic way to manage transformation. Successful change and transformation require people be ready, willing, and able to initiate and sustain change, and this book addresses this by clarifying differences between culture and climate, and then offering practical ways to understand and create the climate for transformation” (Tidd, September 2006).
3. In *Smart talent management: Building knowledge assets for competitive advantage*, Vance Vaiman “looks at human talent in organizations, focusing on employees at all levels who represent key agents of knowledge management in acquiring, transferring, and applying important knowledge for competitive advantage. The overarching aim of the book is to identify, define, and explore the implementation of talent management strategies aimed at facilitating effective knowledge management in an organization. The

contributors provide a valuable fusion of two important areas of emphasis for current research and practice in human resource management: talent management and knowledge management. They illustrate the immense significance of the latter to competitive advantage and organizational success in our rapidly changing global knowledge-based economy. The generation and acquisition of ideas and knowledge, their internal transfer and application throughout the organization, and the cross-border transfer of knowledge—all through the effective management of human talent—have become integral and important parts of contemporary management. The contributors examine planning and staffing, training/coaching, performance management, and organizational learning and development. Academics and human resource management practitioners and management consultants will find this volume valuable” (Vaiman, 2008).

4. In the *Knowledge management whitepaper: Preparing for the exodus*, Carla Carter & Associates, Inc., conclude, “Knowledge is not a football. It cannot be fumbled if the firm is to win the game.” Management of Knowledge begins at the source, which is an organization’s people. It cannot be considered enough to just manage technical data and call it a victory in knowledge management. An organization must look at all sources of knowledge and must take the steps to salvage every form of knowledge especially as the baby-boomer generation begins to leave the workforce (Carter & Associates, 2001).

A summary of Academic Sources referenced follows:

1. In *Civilian talent management: A proposed approach for the Aberdeen Proving Ground workforce*, Richard Cozby “notes that the BRAC presents extraordinary challenges for the workforce at APG, MD. In total, over 5,000 government civilian positions will be relocated to APG, and many will arrive unencumbered. In addition, the U.S. Army Civilian Human Resources Agency [CHRA] anticipates that over 25 percent of the current APG workforce will be eligible to retire over the next 5 years. The combination of these trends suggests that APG will need to hire over 25,000 civilians in the next 5 years, most of whom will need to possess scientific, engineering, project management, and other hard-to-find skills. Two major issues stand out. First, the hiring method that is currently used relies upon a traditional advertise-and-apply process. This leaves to chance as to whether the best person-job fit will be satisfied. Secondly, the professional development model for civilians is relatively unstructured, leaving most of the

decisionmaking with regard to education and assignments up to the employee” (Cozby, 2010).

2. In *Impact of the ATEC [Army Test and Evaluation Command] Mentor Program on DAWIA [Defense Acquisition Workforce Improvement Act] Certification*, Stephanie Halcisak, “Builds on other research such as the April 2010, Research Report 10-004 titled, ‘Mentoring of the Acquisition Workforce at APG, MD,’ adds to the body of knowledge concerning mentorship and certification compliance and analyzes interviews of Program Managers to explore the discrepancy indicated in previous research regarding low certification compliance rates despite overwhelming senior leader support. Studied also was the impact of an overwhelming workload that may also prevent adequate time for online and resident training. Certification may be viewed as time taken away from supporting critical acquisition programs. However, being certified is a critical function of supporting acquisition programs” (Halcisak, 2011).
3. In *Leading the Millennial Generation*, Pamela Demeulenaere “gains an understanding of the significant differences in millennial generation needs and expectations from the three other generations known as Generation X, baby boomers, and traditionalists currently in the workforce. Organizations have been hiring a significant number of new civilian employees over the past several years. The most enlightening aspect of this research was where the results deviated from the literature. The importance of having projects broken into discrete tasks, being provided daily or weekly performance feedback, and not being requested to work overtime were rated very low by the millennials, which was contrary to the literature. The literature also suggested that the millennials place importance on the use of social networking tools to perform their jobs. However, the millennial participants in this study rated this as the lowest of all of the factors being rated. The millennials valued the use of these tools as described in the open-ended questions, but apparently, not for the performance of the job” (Demeulenaere, 2011).

CHAPTER 3 RESEARCH METHODOLOGY

Introduction

The study makes inquiries about the effect of Army major organizational relocation policy on knowledge transfer and resultant warfighter customer support by the total acquisition community. Specifically, do these policy changes and organizational alignments improve, diminish, or actually leave unchanged the methods, speed, and quality of routine and unanticipated support for and ultimate acquisition of C4ISR systems? First Claude Bolton ASA(AT&L) along with the Commander of the Army Materiel Command (AMC), GEN Kern, signed an MOA in August 2004 creating Life Cycle Management Command (LCMC) of the AMC Major Subordinate Commands (MSCs) in order to align AMC MSCs with appropriate PEOs. Then in November 2005, Congress accepted the plan put forth by President Bush as recommended by Defense Secretary Donald Rumsfeld, and subsequently mandated the closure or realignment of significant posts and activities worldwide, including the C4ISR LCMC at Fort Monmouth, NJ, and associated elements at Fort Belvoir, VA, and Redstone Arsenal, AL.

Research Perspective and Design

The research design was a nonscientific approach. The research sought to understand the perception and reality of the knowledge transfer between nonrelocating personnel and those who relocated and/or were new hires to the C4ISR community, on the quality, timeliness, and thoroughness of acquisition and sustainment support for Army C4ISR items, systems, and networks as a direct result of these momentous and concurrent other life-changing-event decisions. Appreciating the perception and reality of total C4ISR support before and after the two significant acquisition and congressional decisions further builds the overall database of information as to the effect such decisions have on overall Army knowledge and data retention for subsequent retrieval, and on how said knowledge is transferred en masse/wholesale to a rebuilt workforce of multigenerational employees with differing experience levels.

The research design utilized a two-survey approach of senior mission commanders and Tier-1 & 2 primary leaders and supervisory personnel engaged in the development, acquisition, support, or operation of Army C4ISR systems and networks. The surveys were provided in individually linked e-mails to all selected target personnel (approximately 419-plus persons)

within the Army C4ISR APG-based community, with an invitation to voluntarily access and complete the survey.

The research was purposely limited to only the top five relocated C4ISR organizations: ACC-APG, CECOM, CERDEC, PEO C3T, PEO IEW&S and their subordinate organizations (a complete list is available in Appendix C). The study was intended to include these organizations' key leaders (seniors and mid-level Tier 1 & 2) only. The survey was not extended to the Tier-3 lower-level management or workforce at large as it would have potentially introduced a significant amount of emotional input (positive and negative) that would have skewed the study, which is meant to be more strategic in nature. Similar organizations at other BRAC-affected locations were not added as it would have been outside the manageable scope of the study.

Research Questions and Hypothesis

Research Questions

1. Q1: Did knowledge transfer before, during, and after the relocation of organizations result in positive, negative, or no change support to the warfighter customer?
2. Q2: Did the replacement of significant numbers of workers by new workers result in an organizational paradigm shift (i.e., has the organization's culture significantly changed)?

Research Hypothesis

H1: A counterintuitive **POSITIVE** impact:

Among both new and incumbent workforce supervisors, there is a perception of an increase in C4ISR knowledge and improved support to the end warfighter user since completion of the BRAC 2005.

H2: The intuitive and feared **NEGATIVE** impact:

Among both new and incumbent workforce supervisors, there is a perception of a decrease in C4ISR knowledge and/or support to the warfighter end user since completion of the BRAC 2005.

H3: A counterintuitive **NEUTRAL** impact:

Among both new and incumbent workforce supervisors, there is a perception of no perceptible change in C4ISR knowledge and support to the end warfighter user since completion of the BRAC 2005.

Subject Participants and Population

The survey's target population consisted of military and Department of the Army Civilians (DAC) engaged in all aspects of the acquisition and sustainment of Army C4ISR equipment, services, and networks impacted by BRAC 2005. Organizations were ACC-APG, CECOM, CERDEC, PEO C3T, PEO IEW&S, and their subordinate organizations (a complete list is available in Appendix C). The specific target audience were all Tier 1 & 2 leaders and staff managers from PEO Program Managers (PM) and higher, and all Tier 1 leaders and staff managers from ACC-APG, CECOM, and CERDEC Divisions and higher. This represents approximately 419-plus personnel. Fort Monmouth, APG, Fort Belvoir, Fort Dix, and other facility personnel from the Installation and Management Command (IMCOM) were not included in this study.

Sponsorship: PEO C3T was the sponsor for this research (App C)

Buy-In from the Team C4ISR leadership was unanimous (App C):

1. ACC-APG: Bryon Young
2. CECOM: Gary Martin
3. CERDEC: Jill Smith
4. PEO C3T: BG (P) Lee Price
5. PEO IEW&S: BG Harold Greene

Unit of Analysis and Research Variables

The unit of analysis for this study were the mid, upper, and senior leaders (a.k.a. managers, supervisors, directors, etc.), of the five major Army C4ISR organizations (ACC-APG, CECOM, CERDEC, PEO C3T, and PEO IEW&S), located principally at Fort Monmouth, NJ, and Fort Belvoir, VA, in 2005 that by September 2011 were all at APG, MD. These are interdependent feeder and user leadership positions and organizations collectively known as Team C4ISR, and provide all Army communication and computer items, systems, and networks design, test, procurement, and sustainment.

The data concerning the numbers of positions relocated and resultant vacancies, as well as the Tier 1 & 2 and senior leadership positions and current occupants at APG are treated as accurate and reliable as of the end of January 2012. The date is an important qualification, as

Team C4ISR BRAC took effect in November 2005, personnel movement to APG began in 2006 and C4ISR BRAC officially ended on September 15, 2011. The methods of knowledge transfer were documented, but time did not allow for a detailed scrub of these data to determine how each individual departing incumbent worked to deed his or her professional relative knowledge and how that information was collected and populated. The intentional use of this information was to provide a scale of the problem to be managed and a sense of the mid-upper management and senior leaders of the five major organizations. Generational analytic data points were relevant to reference the respondents' approach toward knowledge capture and transfer methods, intensity, and concern. For these purposes, the available data were deemed sufficiently reliable and valid to support this research.

Research Instrument

Two surveys (Appendix B) were developed for collecting information. The survey form was individually provided to personnel linked to a uniform resource locator (URL) address specifically tied to their e-mail addresses. The survey announcement was e-mailed to appropriate ACC-APG, CECOM, CERDEC, PEO C3T, and PEO IEW&S senior leaders and Tier 1 & 2 supervisors and managers in subordinate organizations, requesting clearly identified and delineable information on objective realities and subjective recollections on the quality, timeliness, thoroughness, and effectiveness of knowledge transfer in support of C4ISR systems during and after major organizational relocation.

Pilot Study, Setting, and Environment

A pilot survey of each of the two draft surveys was provided to 49 individuals in the Defense Acquisition University (DAU) Senior Service College Fellowship (SSCF) program, and the senior leader provided organizational PoCs at each of the Team C4ISR HQs to ensure questions and options were adequate and easily understood to facilitate answering the study questions. These pilots resulted in six survey question modifications to address group demographics and to make all the questions easier to answer. Additional modifications were made to some question styles, adding in some cases and dropping in others—things like dropdown menus, etc., and to both the disclaimer lead-in statement and the e-mail announcement. The pilot group also concurred with the intent to limit the survey to Tier 1 & 2 middle managers and to the senior leaders. They concurred with the use of individually linked e-

mails that would guarantee anonymity, agreeing that personnel would be hesitant to respond to such a survey if it were on a commercial and openly accessible web site.

Following the Pilot Study, e-mail requests to participate in the SurveyMonkey survey were sent to specific leadership and key personnel mail.mil addresses within the APG C4ISR organizations of ACC-APG, CECOM, CERDEC, PEO C3T, and PEO IEW&S. Participants received these requests on their U.S. Army computers, and it is presumed that they likely completed the surveys in their offices at government installations, or while teleworking from their authorized home offices.

Data Collection Procedures and Statistical Analysis

The survey process was automated using the SurveyMonkey tool. The SurveyMonkey tool allowed each respondent to remain anonymous; the survey leader only knew specific and limited demographic data based upon responses to the demographic questions. Participation in the survey was voluntary, and was so stated in the Informed Consent Form contained on the first page of the survey and was listed as Question Number 1. This opening statement informed the participants that survey participation was strictly voluntary, they could stop at any time during the survey, and they did not have to answer all questions if they chose not to. The pilot survey determined that the senior leader survey required 5 to 10 minutes to complete, and the Tier 1 & 2 survey required 15 to 20 minutes. No compensation (in money or time) was provided, and employees did not receive any other benefits, such as overtime or time off, to complete the survey.

When the SurveyMonkey mail server delivered the message to each individual, the system automatically generated unique links for each person. Each link is tied to a specific e-mail address in the list via the tags included in the default message. Only the recipient knew his/her unique link. The survey leader is not able to see the assigned links inside the collector. SurveyMonkey saved and listed answers for each of the survey questions collectively as they were received. Results were retrieved and documented in multiple onsite spreadsheets, charts, graphs, etc.

Results of the SurveyMonkey responses were viewable continuously in real-time as they were collected. Each time the web site was accessed, the survey leader could watch live graphs and charts changing as data were received, and simultaneously could drill down to get anonymous individual responses. Potent filtering and cross-tabulation permitted the display of

any range from very specific desired data up through a complete data dump. Summaries of results were available in multiple formats to include the downloading of all the raw data collected as a spreadsheet that could then be used in any way desired.

A response summary was available continuously as the default “Analyze” page, which provided survey results and displayed information such as the number of respondents who answered each question, the percentages each answer option received and basic graphs among other data. Open-ended responses however were not visible; the few such responses were available with two additional steps in the space where the open-ended question would be, to see all the respondents’ comments.

Custom Reports were created via drop-down menus on the Response Summary page. These reports provided an opportunity to create a new report and specify which questions or pages could be viewed on the Analyze page. Creating custom “views” of survey data allowed for examining a single or multiple sets of correlated questions on one page instead of scrolling through the entire report to find and compare these questions.

Filtering of data allowed for the organization and viewing of specific subsets of *data* for advanced *analysis*. Filtered data displayed only the set of full responses that match filter criteria, allowing patterns to be found more easily in the data.

Spreadsheets used to capture survey data also were used to sort and summarize data describing key variables. Summarized information included such figures as total number of respondents; number and percentage of respondents with C4ISR experience by generation; number and percentage of respondents who were, for example, PEO/PMs. Information used to describe the survey population partitions set the stage for analyzing data collected about the quality, timeliness, cost, and thoroughness of software support.

Bias and Error

This research solicited opinion through open-ended subjective opinion and objective survey questions. This research also involved informal and undocumented individual and group discussions with respondents after the surveys closed. There is a known bias in the collection of opinion data, and there are questions regarding the validity of the provided data given the still very high anxiety and emotions among relocated personnel post-BRAC. Relocated Fort Monmouth and Fort Belvoir personnel still are with Team C4ISR, but the collective APG culture is different, and many Tier 1 & 2 leaders are apprehensive about change. These limitations

notwithstanding, the methodology is believed to provide enough information for senior leaders in Team C4ISR and elsewhere to make decisions about the extent and direction of follow-on efforts leading to implementation and future BRACs or large-scale organizational changes.

Validity

The survey questions in the research instrument aimed at a specific survey population that could be parsed according to BRAC-induced relocation and major acquisition force experiences, based on generational impact as well as major organizational detail. Additional questions regarding knowledge transfer type and incumbent knowledge transfer philosophy and support represent the content of knowledge transfer and its impact, which the research is intended to address.

The data concerning positions at pre- and post-BRAC locations, vacancies resulting from non-relocators, and leadership positions provided by the ACC-APG, CECOM, CERDEC, PEO C3T, and PEO IEW&S PoCs provided by the senior leaders for this survey are entered as reliable data points. Though this was an unscientific survey with analysis of the data, the data provided in the form of anonymity and non-attribution also are considered reliable. The reliability and validity of the instrument used to collect the data for this study have not yet been established. However, the instrument has been pilot tested, and its design conforms to acceptable survey practices. Results must be considered as potentially skewed to some small degree by the severe emotional impact on the leaders involved in this research of such a large move and drain of talent through the BRAC and concurrent acquisition workforce adjustments.

Summary

This chapter described the methodology used to collect and analyze data on the various forms of knowledge transfer undertaken pre- and post-BRAC as well as throughout the process, and on whether generational differences between outgoing, incumbent, and new-hire personnel played a role in the knowledge transfer and its implementation. Another aspect of the methodology was to show through qualitative data what the leadership in these organizations did or plan to do to address knowledge-transfer issues. This chapter laid out the overall research methodology, including the research design and questions, participants, research instrument, pilot study, and the data collection and analysis plan of the study. It also showed that the entire population of possible respondents could not be used; instead, key leadership personnel within the target population were used. This respondent approach also ensured respondents were not

disproportionately drawn from any certain sectors of the C4ISR population, as the approach was based on upper and middle management. This self-imposed limitation of the target population did not diminish the value of assessing data about and from the restricted population sectors for which results can be analyzed.

CHAPTER 4

DATA ANALYSIS AND RESULTS

Introduction

This chapter sets forth both objective facts and subjective opinions regarding the research that were found in the literature review and provided via the surveys and through informal discussions (individual and group unofficial/un-recorded interviews).

Results are presented in eight sections. The first section (Population, Sample, and Participants) describes the survey respondents based on the two survey strategies used, response rates, and generational mixes. The second section (Consolidated Summary Bottom Line Upfront) provides a summary of the knowledge capture/transfer dilemma. The third section (Summary of Team C4ISR BRAC Strategic Goals) describes the initial plan of the C4ISR community in addressing the potential loss of significant numbers of the experienced workforce and how the community planned to capture much of the knowledge those personnel had. The fourth section (Summary of Recipients and Messages) offers a look at how the surveys were solicited from the two target audiences and how those recipients responded by group. The fifth section (Summary of Demographic Results) presents how both survey groups are composed relative to work position, generational/age mix, gender, and educational levels. The sixth section (Summary of Applicability Results) examines whether knowledge transfer was a concern of the leaders—and, if so, how that concern morphed over time as BRAC progressed. The seventh section (Summary of Knowledge Transfer Results) provides insight into how the respondents attacked the problem of knowledge capture and transfer. The eighth section (Overall Summary) pulls the previous sections together and encapsulates the raw data received. A complete set of the raw numbers from both the Senior Leader and the Tier 1&2 upper-middle management surveys is provided in Appendix B, and those numbers have been summarized by highlighting where the data and literature supported, or deviated from, each other.

Tailored surveys (Appendix B) were sent to two separate groups of leaders/managers (1 survey each). Distribution of one was to 16 GO/SES senior leaders, and the second was to 403 Upper and Middle Managers (Tier 1 & 2) across the five major organizations of Team C4ISR: ACC-APG; CECOM; CERDEC; PEO C3T; and PEO IEW&S. These 419 surveys were sent to selected employees from e-mail distribution lists and/or from e-mail addresses gleaned from the

Microsoft Outlook military Global Address List (GAL) based on organizational line and block charts provided direct by assigned organizational PoCs.

Section 1: Population, Sample, and Participants

Response rates were surprisingly similar in the Senior Leader and Tier 1 & 2 surveys (69 percent/68 percent, respectively), though both fell short of the research self-imposed synthetic/desired target of 75 percent each. Removing the official opt-outs from the total responses, however, shows a wider degree of separation between the two leadership levels (63 percent/53 percent respectively (Table 1).

<u>Group:</u>	<u>Target Audience:</u>	<u>75% Target Response:</u>	<u>Total Final Responses:</u>	<u>Total Final Response %:</u>	<u>Responses w/o opt-outs</u>	<u>Response % w/o opt-outs</u>
Senior Leaders	16	12	11	69%	10	63%
Tier 1 & 2 (Upper and Middle Managers)	403	302	272	68%	211	53%

Table 1. Survey Response Rates by Leadership Type

Of the 283 total survey responses, 171 (61 percent) were from the baby-boomer generation, 78 (28 percent) from the other generations (03 Traditionalist, 71 Generation X, 04 Millennial, and 00 iGeneration). And there were 34 (11 percent) survey official responses where the individual opened the survey and then formally opted-out (Figure 2). These generational analytic data points reference the respondents’ approach toward knowledge capture and transfer methods, intensity, and concern.

Thirty-two percent (136) of the invited total of 419 senior and middle-upper managers/leaders did not open their survey invitations and/or reminders. All e-mail addresses and duty positions were checked and verified as accurate, but the addressees chose not to participate for various reasons established in post-survey discoveries. Validations cited ranged from: “on extended TDY [temporary duty] and could not link to the web site ...” and “... the survey tool web link and name: SurveyMonkey appeared to be SPAM.” (The researcher was contacted by the APG Directorate of Information Management (DOIM) to verify the SurveyMonkey web address that was showing up in his e-mail credentials) through “survey vs. formal workload inundation.”

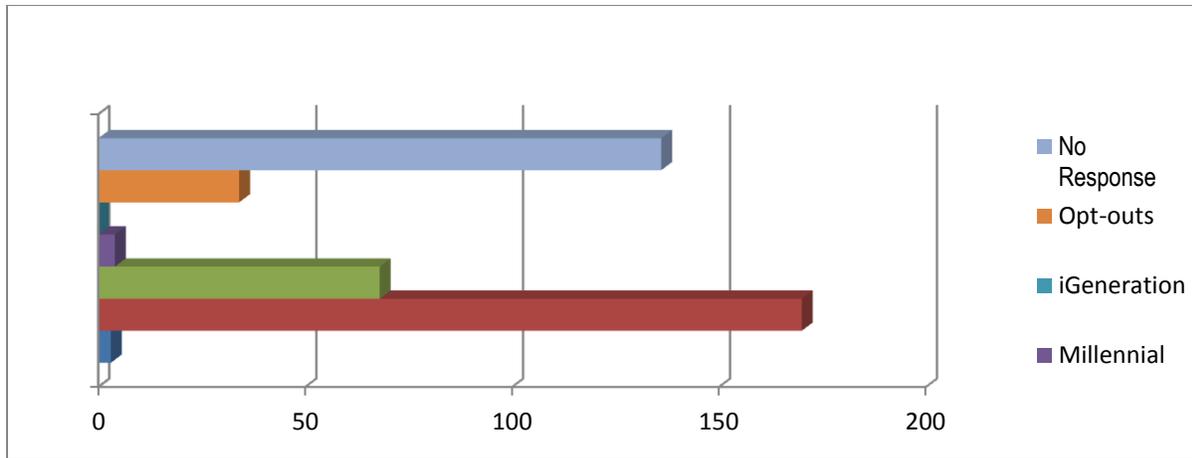


Figure 2. Consolidated Response Rates

Section 2: Consolidated Summary Bottom Line Up Front

The following figure displays how knowledge is both distributed, and the resultant, magnitude of the capture/transfer problem (Carter & Associates, 2001).

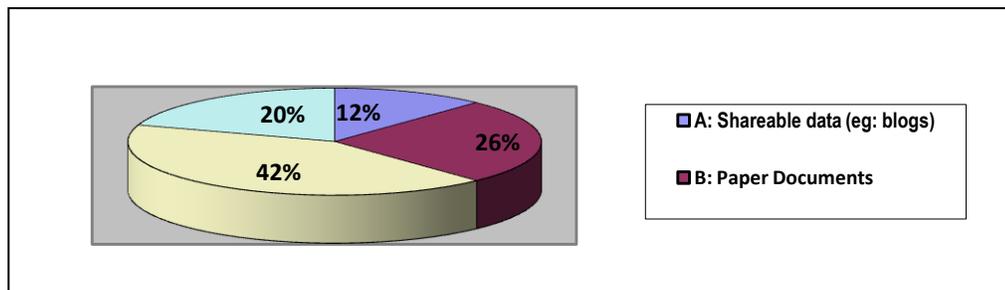


Figure 3. Knowledge Sources

As revealed in Figure 3 above, 38 percent of knowledge (sections A & B) is easily captured and transferable, but a vast 62 percent (sections C & D) is much harder to quantify and exploit as it resides in the hearts and minds of each individual and rarely makes it into print or onto a shared drive. Networking, golf games, telephone calls, undocumented meetings, impromptu post-meeting deliberations, water-cooler discussions, etc., all build a wealth of knowledge not easily captured and not transferred to current coworkers or, even more important, to new replacement workers.

Results of this research validate the knowledge-capture dilemma and provide interesting insight into unintended consequences of “mass purge/new blood” on absorbing a short-term

continuity loss while gaining new and younger talent with fresh concepts and refreshed networking.

Section 3: Summary of Recipients and Messages

Senior Leaders Survey

16 Survey Invitees

- I. Original Survey sent: 01/13/2011
- II. Survey closed: 02/29/2011
- III. Messages sent: 8
- IV. Responses/Rate: 11 of 16 (69%)
 - 1. Opt-Ins: 10
 - 2. Opt-Outs: 01
 - 3. No response: 05
- V. Response Type: -----
 - 1. Total: 11
 - 2. Complete: 09
 - 3. Partial: 02

Tier 1 & 2 (Mid-Upper Management) Survey

403 Survey Invitees

- I. Original Survey sent: 01/13/2011
- II. Survey closed: 02/29/2011
- III. Messages sent: 8
- IV. Responses/Rate: 272 of 403 (68%)
 - 1. Opt-Ins: 261
 - 2. Opt-Outs: 011
 - 3. No response: 131
- V. Response Type: -----
 - 1. Total: 272
 - 2. Complete: 211
 - 3. Partial: 061

Section 4: Summary of Demographic Results

Senior Leaders

1. Demographic Question Number 1: *What are your current duty organizations?*

The most senior leaders from four of the five major organizations comprising Team C4ISR (ACC-APG, CECOM, CERDEC, PEO C3T, and PEO IEW&S) elected to participate.

2. Demographic Question Number 2: *What was/is your duty office/position (or equivalent)?*

Except for one, all responding senior leaders held the same position during all or most of the BRAC period.

3. Demographic Question Number 3: *What is your Employment Type and Pay Grade?*

All responding senior leaders were in the rank/pay-grade of GO or SES.

4. Demographic Question Number 4: *How long have you been with your organization and in your duty position?*

As depicted in Figure 4, the senior leaders' tenure in their current positions was equally split with four incumbencies of 1 year or less and five whose incumbencies ranged from 2 to 9 years. The senior leaders' time in their organization ranged almost equally from one in place for a year or less to two who have been in the same organizations for more than 16 years.

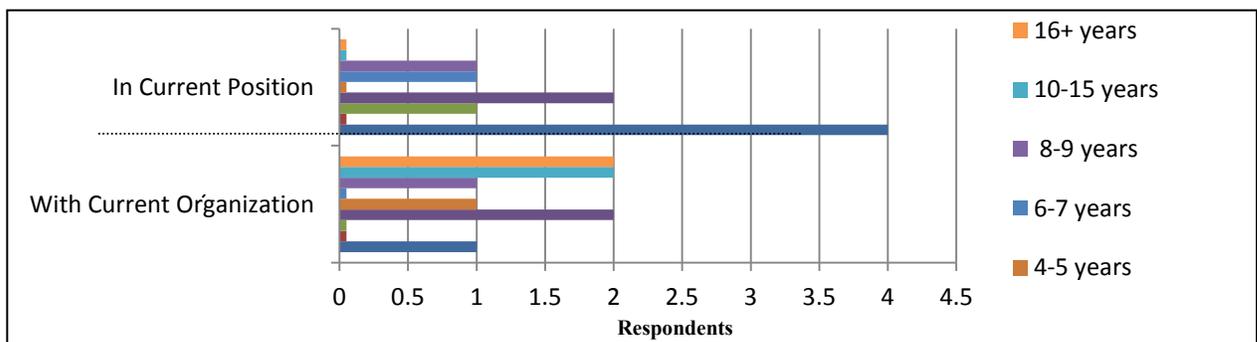


Figure 4. Position and Organizational Tenure

5. Demographic Question Number 5: *Who are you?*

This fifth and final demographic question was necessary to assign each respondent to his or her generation and to determine if any demographics potentially played on knowledge transfer decisions. Figures 5A, 5B, and 5C depict the breakout of the respondents by generation, their educational credentials, and gender, all to determine if there is any immediately discernible impact regarding knowledge-transfer style, issue intensity, and/or concern.

- a. The five generations are: traditionalists (prior to 1946), baby boomers (1946 through 1964), generation X (1965 through 1980), millennials (1981 through 1990), and the i-generation (1991 through today). As the chart shows, eight of the senior leaders described themselves as in the baby-boomer generation (ages 46-65) and one was a Traditionalist (older than 66) (Figure 5A).
- b. The educational levels are: high school, some college, undergraduate degree, masters, college credit beyond masters, and doctorate (Ph.D.). Four of the senior leaders had their masters, three had college credit beyond a masters, and two had their doctorates (Figure 5B).

Gender: All nine senior leaders who completed the survey were male. Two partial responders did not answer this question (Figure 5C).

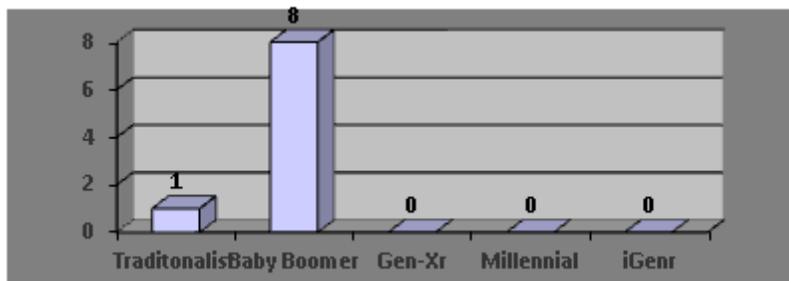


Figure 5A. Generational Placement

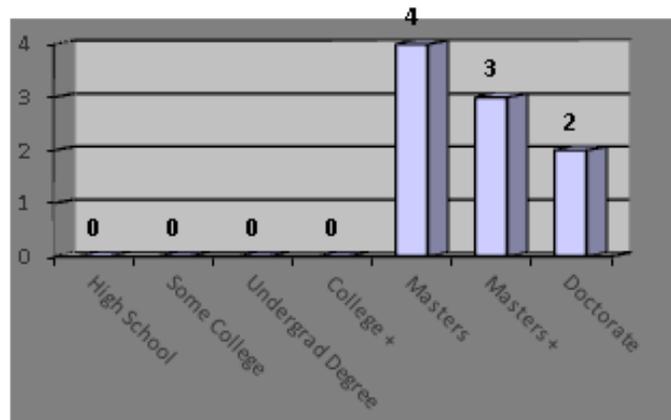


Figure 5B. Education Level

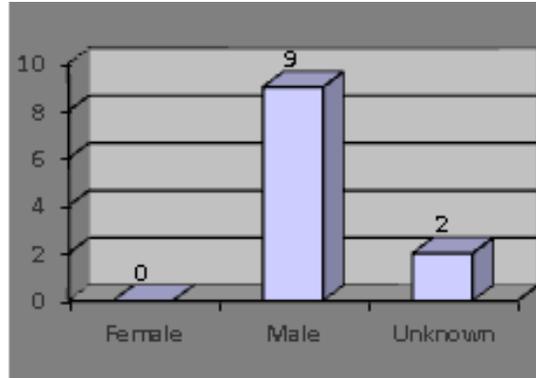


Figure 5C. Gender

Tier 1 & 2 (Mid-Upper Management)

1. Demographic Question Number 1: *What are your current duty organizations?*

Tier 1 & 2 leaders from all of the five major organizations comprising Team C4ISR (ACC-APG, CECOM, CERDEC, PEO C3T and PEO IEW&S) elected to participate in this research.

2. Demographic Question Number 2: *What was/is your duty office/position (or equivalent)?*
Responding Tier 1 & 2 leaders were by an overwhelming preponderance in the same position (or a like position) during all or most of the BRAC period.

3. Demographic Question Number 3: *What is your Employment Type and Pay Grade?*

All responding Tier 1 & 2 leaders were in the rank/pay-grade of a field-grade military officer (major, lieutenant colonel, and colonel) or General Services (GS) grade of GS-09 through GS-15, and all were in supervisory positions.

4. Demographic Question Number 4: *How long have you been with your organization and in your duty position?*

As depicted in Figure 6, the Tier 1 & 2 leaders' tenure in their current positions was equally split, with 112 incumbencies of 1 year or less through 2 years, and 124 whose incumbencies ranged from 10 to more than 16 years. The Tier 1 & 2 leaders' time in their organizations ranged almost equally in time from 123 incumbencies of 1 year or less through 9 years, and 113 with incumbencies from 10 to more than 16 years.

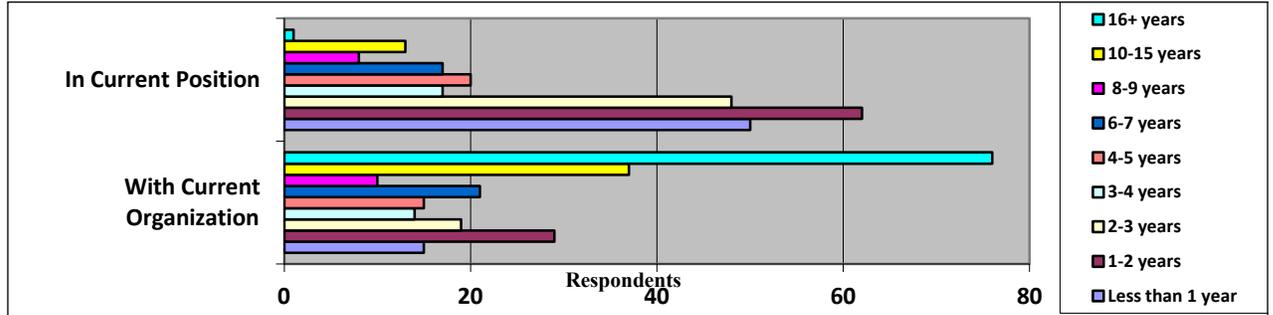


Figure 6. Position and Organizational Tenure

5. Demographic Question Number 5: *Who are you?*

Four of the Tier 1 & 2 leaders described themselves as in the Millennial generation (21-29), 71 in the Generation-X (30-46), 159 in the baby-boomer generation (age 46-65) and two were Traditionalists (over 66) (Figure 7A). Three had a high school education, 18 had some college, 69 had an undergraduate degree, 112 had master’s degrees, 27 had college credit beyond a master’s, and seven had doctorates (Figure 7B). Of those who completed the survey, 172 were male, and 64 were female. Thirty-six survey completers did not answer this question (Figure 7C).

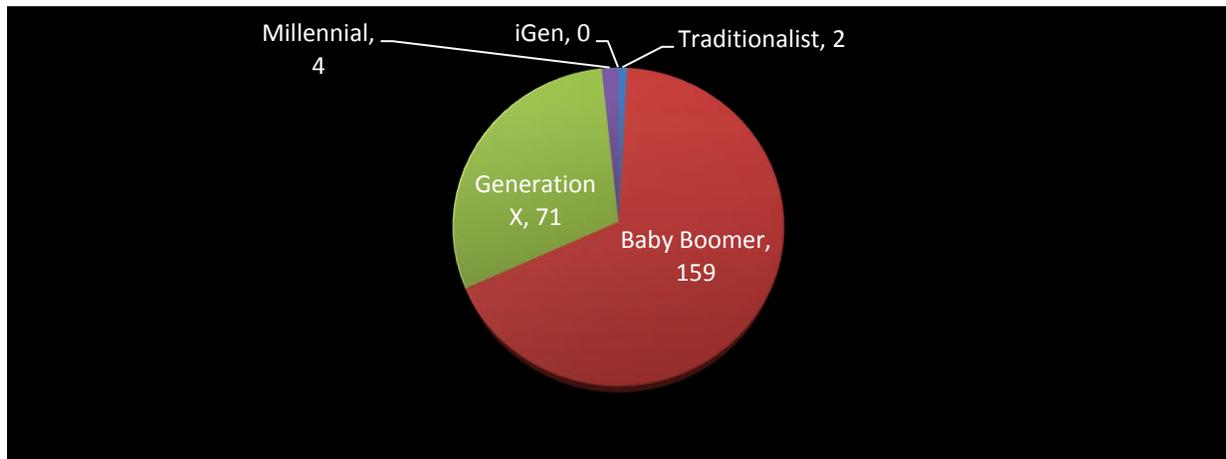


Figure 7A. Generational Placement

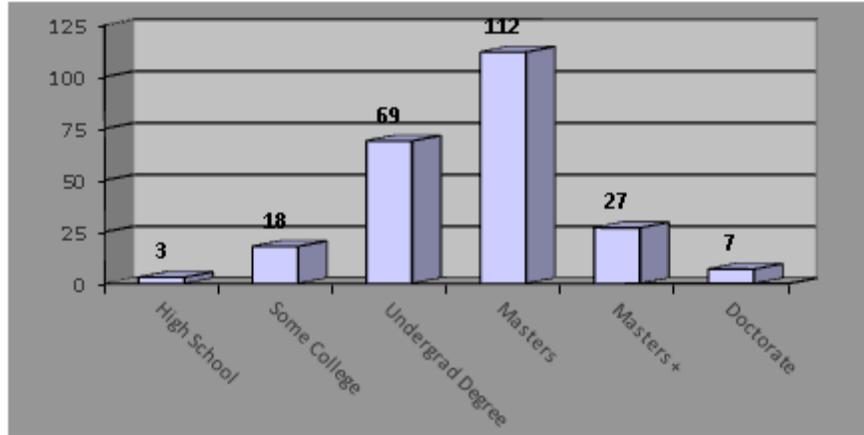


Figure 7B. Education Level

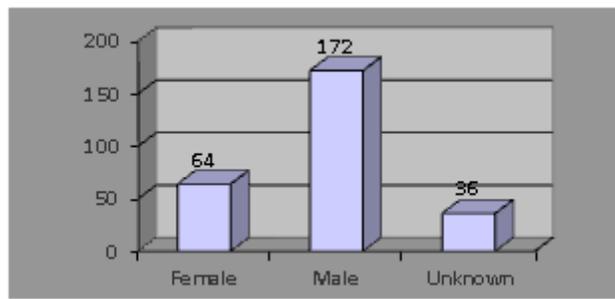


Figure 7C. Gender

Section 5: Summary of Applicability Results

Senior Leaders

1. Applicability Question Number 1: *Was Knowledge Transfer a concern for you as a supervisor and/or as an acquisition leader during each of the following periods: BRAC Initiation (2005-2006), BRAC Implementation (2007-2010, BRAC Termination (2011)?*

For each of the three periods of the BRAC move, 75 percent of the senior leaders responded “Yes,” and 25 percent responded indicating nothing throughout the more than 5 years of the process made the senior leaders more or less comfortable about knowledge management and transfer or loss (Figure 8).

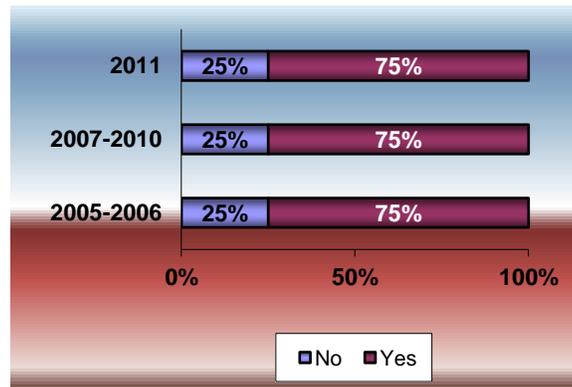


Figure 8. Knowledge Transfer Concern

2. Applicability Question Number 2: *As BRAC progressed from 2005 through 2011, what was your single worst-case planning estimate of incumbent workforce losses?*

Throughout the more than 5-year BRAC process, employees decisionmaking on whether they would move with their positions remained very fluid, causing uncertainty about hiring and knowledge transfer requirements, etc. Therefore, senior leaders found it very difficult to gauge the magnitude of the problem as seen in their “worst-case” responses about workforce losses ranging from a minimum of 31 percent to a maximum of 80 percent of their personnel not transferring or leaving the government entirely (Figure 9).

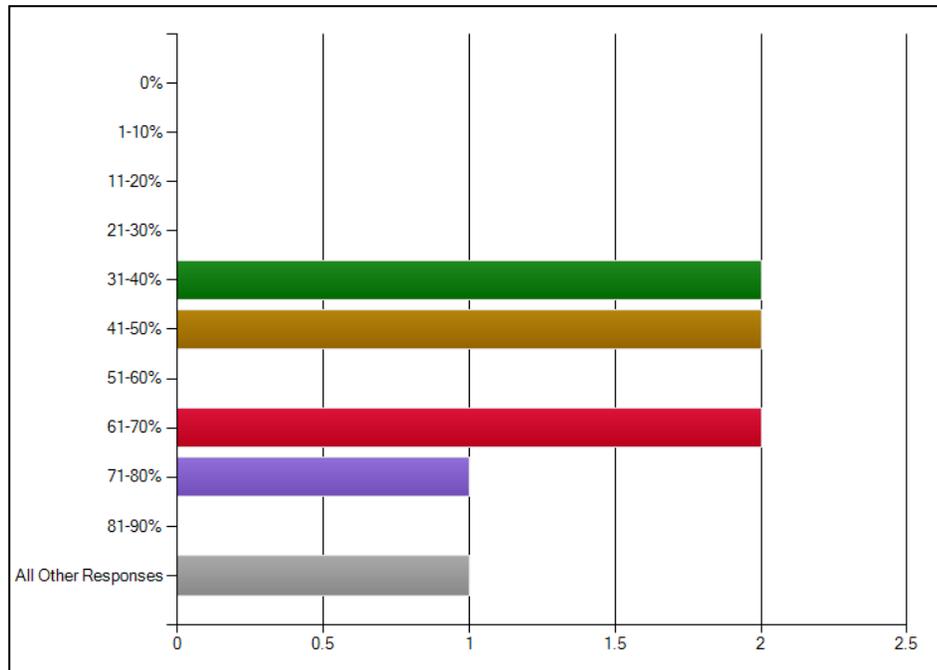


Figure 9. Worst-Case Incumbent Loss Planning Estimate

3. Applicability Question Number 3: *Reference question above: As BRAC progressed and finally closed in September 2011, many “realities” affected the incumbent workforce plans to relocate or not. As a result, what was your actual incumbent workforce loss on BRAC-end date (September 15, 2011)?*

As depicted in Figure 10, senior leader concerns about the magnitude of knowledge loss due to a feared extremely high turnover of their workforces were mollified over time as BRAC progressed, personnel began to accept their transfer orders, and telework was implemented in earnest. The best-case loss rate was expected to be more than 30 percent; in reality, except for one organization, all the other senior leaders saw the 31 percent to 40 percent rate as their worst case.

Factors that tended to flip the plan with reality included: a far deeper and longer-lasting economic recession, insufficient “other” government agencies/activities able or willing to take on displaced Team C4ISR employees, long-distance drives for workers accepting other agency New Jersey-based positions, unpredictable timing and low numbers of VERA/VSEP offers to retirement-eligible employees, low numbers of nongovernmental jobs in the civilian market, movers who held the decision close while they remained less than 100 percent sure of moving, late deciders who chose to “dorm”

with other workers during the week and then return to central New Jersey on the weekends, etc.

Another influencing factor was the late 2010 decision by the Department of Veteran Affairs to open a significant facility in the vicinity of Fort Monmouth. This unexpected event provided a number of jobs for Team C4ISR personnel who did not want to move, and it also pulled away a significant number of Acquisition Contracts personnel who were on the cusp of relocating. This hampered the ACC-Fort Monmouth from both performing its duties as efficiently as possible and from having a solid core of personnel to help tutor the new folks joining the organization as it merged with its APG counterpart.

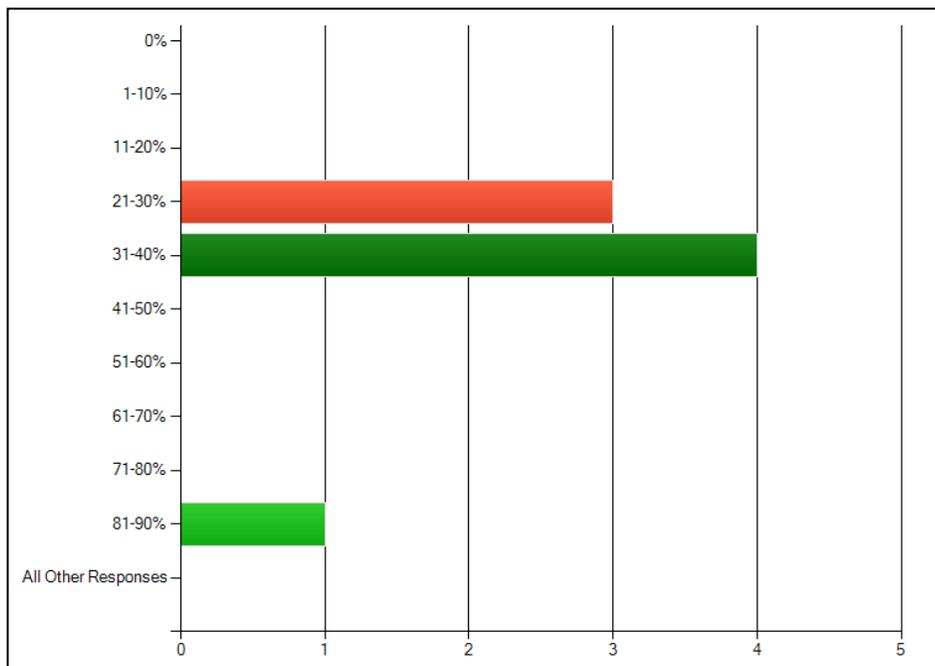


Figure 10. Actual Incumbent Loss

4. Applicability Question Number 4: *Is Knowledge Transfer still an issue/concern of yours?*

The responding senior leaders were evenly split as far as the issue of knowledge transfer was concerned throughout the 5½ BRAC years. It is not known by the researcher whether this was based on a solid plan by the four who were not as concerned as their four counterparts to capture and transfer all or most of the potentially perishable knowledge, or if they were very confident things would work out in the end. It is clear

(Figure 11) that all shared a much greater concern that the loss of nontechnical knowledge is far more possible and hangs ominously over their organizations due to recent hiring freezes and downsizing initiatives under current DoD efficiency mandates.

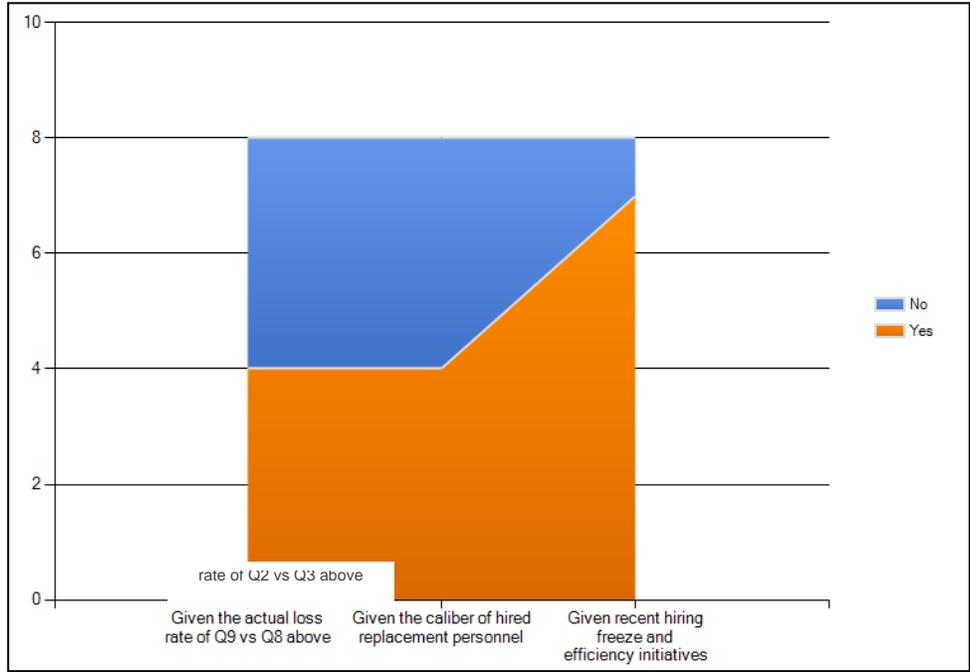


Figure 11. Current Knowledge Loss Concern

Tier 1 & 2 (Mid-Upper Management)

1. Applicability Question Number 1: *Was Knowledge Transfer a concern for you as a supervisor and/or as an acquisition leader during each of the following periods: BRAC Initiation (2005-2006), BRAC Implementation (2007-2010), BRAC Termination (2011)?*

Middle- and upper-management anxiety over the loss of personnel and their associated knowledge increased by 20 percent (post-2006) as both the reality of BRAC set in and as personnel began to move. Anxiety ramped up an additional point in 2011 at the end of BRAC, when DoD announced hiring cutbacks and efficiencies and was not able to offset the positive effects of hiring new, experienced personnel (Figure 12).

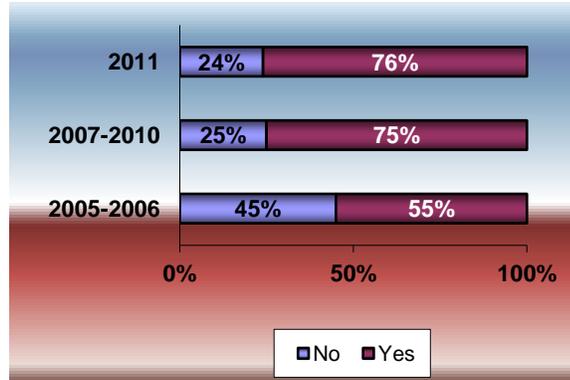


Figure 12. Knowledge Transfer Level of Concern

2. Applicability Question Number 2: *As BRAC progressed from 2005 through 2011, what was your single worst-case planning estimate of incumbent workforce losses?*

Throughout the more than 5-year BRAC process, employees’ decision making on whether they would move with their positions remained very fluid, causing uncertainty about hiring, knowledge transfer requirements, etc. Therefore, like their senior leaders, Tier 1 & 2 leaders found it difficult to gauge the magnitude of the problem as seen in their “worst-case” responses about workforce losses, ranging from a minimum of 0 percent to a maximum of 90 percent—due to their personnel not transferring or leaving the government entirely—with the largest predicted numbers falling in the 21 percent to 70 percent range (Figure 13).

Unlike their senior leaders, however, these middle- and upper-management folks had a better opportunity through daily contact and “sixth sense” gut feelings to better gauge the truth of a incumbents intentions vs. having to rely on the interpretations of others or on monthly BRAC statistic reports. This would explain the wide dispersion of known movers’ plans and the worst-case planning numbers.

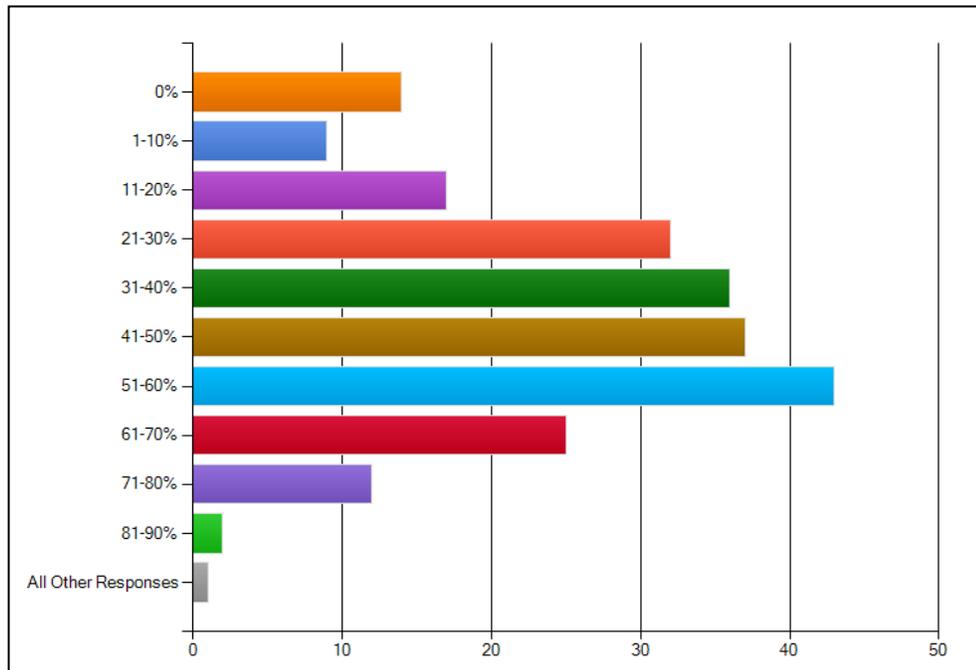


Figure 13. Worst-Case Incumbent Loss Planning Estimate

3. Applicability Question Number 3: *Reference question above: As BRAC progressed and finally closed in September 2011, many “realities” affected the incumbent workforce plans to relocate or not. As a result, what was your actual incumbent workforce loss on BRAC-end date (September 15, 2011)?*

As depicted in Figure 14, Tier 1 & 2 leader concerns about the magnitude of the loss in knowledge due to a feared extremely high turnover of their workforces were mollified over time as BRAC progressed, personnel began to accept their transfer orders, and telework was implemented in earnest. Where the best-case loss rate was expected to be more than 20 percent, in reality, except for one organization, all the other leaders saw the 31 percent to 40 percent rate as their worst case.

Factors that tended to flip the plan with reality included: a far deeper and longer-lasting economic recession, insufficient “other” government agencies/activities able or willing to take on displaced Team C4ISR employees, long-distance drives for workers accepting other agency New Jersey-based positions, unpredictable timing and low numbers of VERA/VSEP offers to retirement eligible employees, low numbers of nongovernment jobs in the civilian market, movers who held the decision close while they remained less than 100 percent sure of moving, late deciders who chose to “dorm”

with other workers during the week and then return to central New Jersey on the weekends, etc.

Another influencing factor was the late 2010 decision by the Department of Veteran Affairs to open a significant facility in the vicinity of Fort Monmouth. This unexpected event provided a number of jobs for Team C4ISR personnel who did not want to move, and it also pulled away a significant number of Acquisition Contracts personnel who were on the cusp of relocating. This hampered the ACC-Fort Monmouth from both performing its duties as efficiently as possible and from having a solid core of personnel to help tutor the new folks joining the organization as it merged with its APG counterpart.

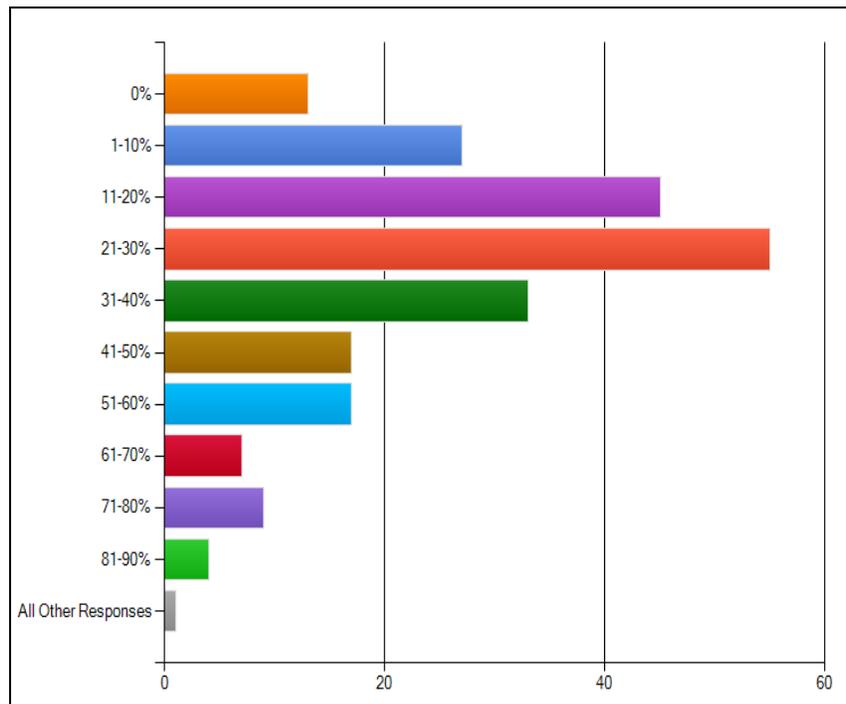


Figure 14. Actual Incumbent Loss

4. Applicability Question Number 4: *Is Knowledge Transfer still an issue or concern of yours?*

The responding Tier 1 & 2 leaders were evenly split as far as the issue of knowledge transfer throughout the 5½ BRAC years. Whether this was based on a solid plan by the four who were not as concerned as their four counterparts to capture and transfer all or most of the potentially perishable knowledge, or if they were very

confident things would work out in the end, is not known by the researcher. But it is clear (Figure 15) that, like their senior leaders, all shared a much greater concern that the loss of nontechnical knowledge is far more possible and ominously hangs over their organizations due to the recent hiring freezes and downsizing initiatives under current DoD efficiency mandates.

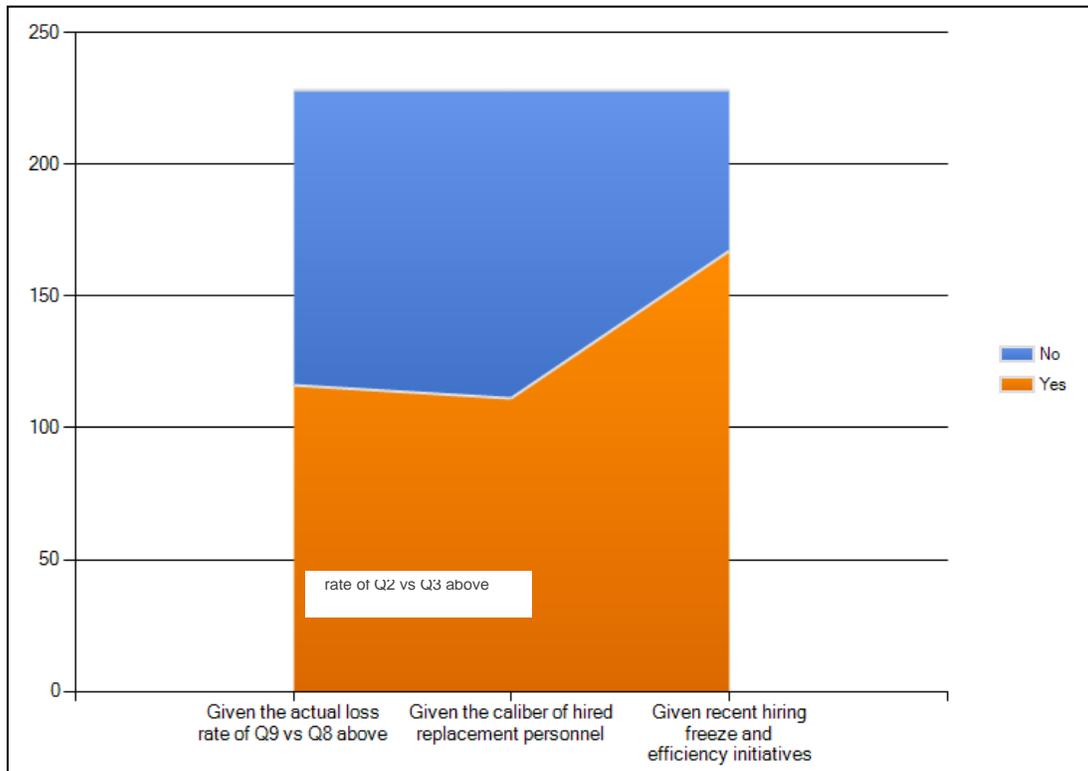


Figure 15. Current Knowledge Loss Level of Concern

Section 6: Summary of Knowledge Transfer Results

Senior Leaders

1. Knowledge Transfer Question Number 1: *How did you transfer or are you transferring knowledge to new personnel?*

The senior leaders overwhelmingly said their Department of the Army Civilian (DAC) Core personnel were their primary focus and that they used all means at their disposal to transfer knowledge to new personnel. The seniors’ strongest and only unanimously agreed methods were the two areas of “Incumbent Knowledge Transfer” and “Team Member Mentoring.” Following close, seven of the eight responding seniors

were again DAC-focused and relied on new employee “Personal Experience” and “Internet Training.” Finally, the last area of DAC knowledge transfer preponderance was the category of “On-the-Fly as time and situations allowed” as stated by six of the eight seniors.

From this point on, the military, matrix DACs, and SETA contractors all fared the same in senior-focused knowledge transfer. Four of the seniors applied most of the knowledge transfer areas to these employment types. “Internet Training” and “Wiki Repositories” were preferred by only 25 percent of the respondents.

The lowest two categories were the most hands-off and negative methods of “Fingers Crossed— they are on their own” and “Not Applicable,” and were chosen by only one of the senior leaders. Note: “Not Applicable” was chosen where the respondent was new to the leadership role and did not have the opportunity to influence knowledge capture or transfer (Figure 16).

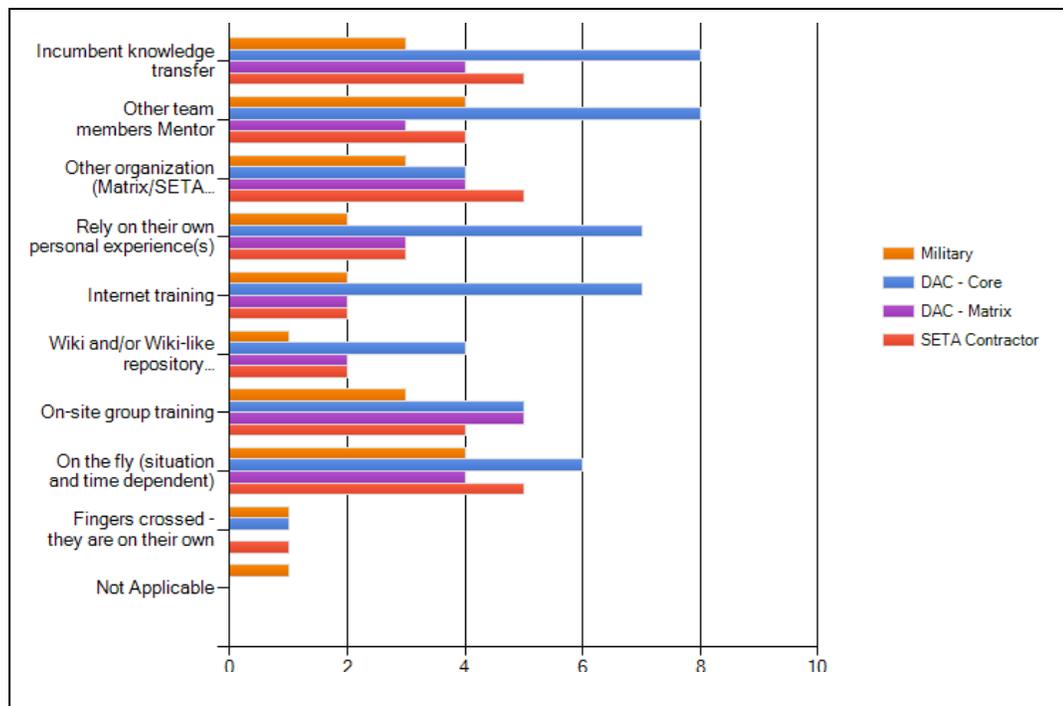


Figure 16. Knowledge Capture/Transfer Methods

2. Knowledge Transfer Question Number 2: *Was the more than 5-year BRAC period (from announcement to final organizational move) optimal in minimizing the impact on*

knowledge transfer by allowing sufficient time to train new hires at their original location and / or at their new location?

Six of eight senior leaders believed the available time under this BRAC was sufficient to provide an orderly transfer of knowledge. One senior believed an additional 6 months would have been optimal, and one believed the time should be reduced by a year.

3. Knowledge Transfer Question Number 3: *Which areas of knowledge were most impacted by your relocation?*

As depicted in Figure 17, the consensus among the responding senior leadership was that there was a knowledge drain in their organizations and an impact. However, within that consensus, there was an even split as to the severity of the problem and on the areas of knowledge loss. Tying back to Figure 3, the shareable data and paper/stored drive knowledge, whether technical or other, were not seen as a loss—or if some were lost, they were seen by the leaders as already recovered or to be recovered within the first year after the move was completed. The more difficult areas of nontransferable employee-brainstored knowledge and nonshareable data/e-mail/stored but too-hard-to-recover information, etc., were seen by all leaders as having an impact (particularly in organizational processes, culture, and procedures) but it was expected the impact would be over within a year.

Informal discussions provided further detail on why this was not as much a problem for the seniors and most said the change in culture brought about by the compulsory change of environment, duty location, significant new workforce numbers, etc., was already being seen and felt as a positive change for the organizations and overall warfighter support. Noteworthy to them was the vitality and organizational process alterations already being felt by the younger/newer generational makeup of their labor force. In all senior responses, personal networking knowledge loss was the consistent loser and was both a short- and longer-term issue. Here again, the losses were viewed not so much as nonrecoverable and a knowledge transfer faux pas, but more as the product of normal employee transition. It was thought that, as the newer workers come on line and began to take on their responsibilities, those employees would build their own new networks and bring newer and fresher dynamics to the work.

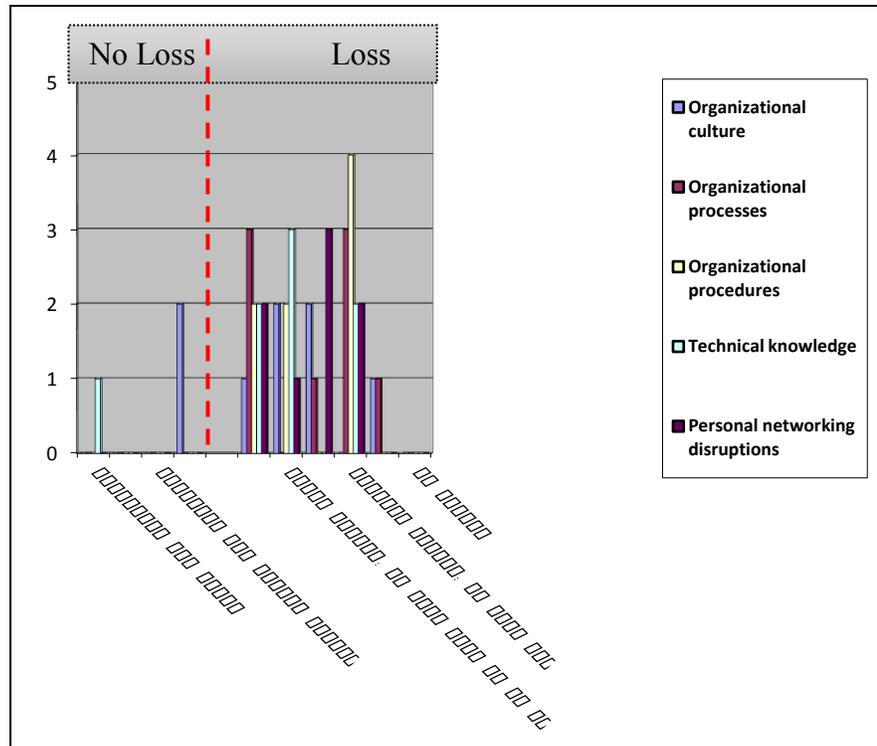


Figure 17. Knowledge Areas Impacted

4. Knowledge Transfer Question Number 4: *Subjectively, based on knowledge transfer, is there a perceptible increase or decrease in customer service by your workforce since it relocated to your new duty location?*

But for one senior leader who has experienced a significant decrease in customer (warfighter) service, all the other seniors reported as the worst case some decrease, and 50 percent cited either no loss or some increase in service (Figure 18).

Informal discussions again point to culture shifts, based on the addition of so many new employees, as having a positive effect. But in some cases where the organization resisted the culture immersion, there was some decrease in service. One senior postulated that the organization lost too many key personnel and this resulted in a temporary decrease in customer support but that new personnel already are correcting this concern.

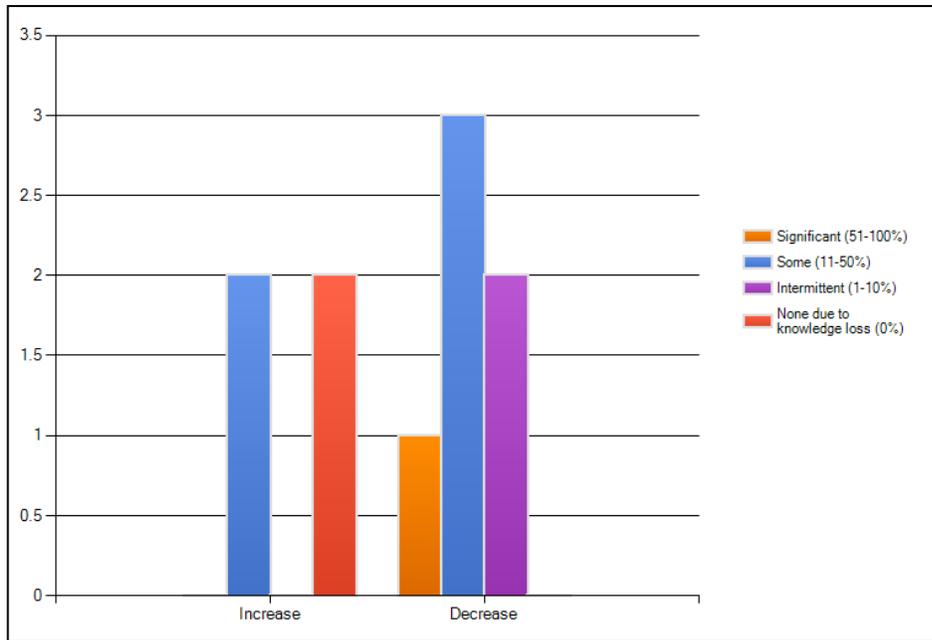


Figure 18. Customer Service Increase or Decrease

5. Knowledge Transfer Question Number 5: *Has the loss of workplace incumbents and their historical knowledge and experience in your organization actually been beneficial by bringing in new blood/talent?*

Seventy-five percent of the senior leaders believe the BRAC move, though organizationally painful, was more beneficial than not (Figure 19). Another senior was still assessing the impact of the new talent; one was certain the new talent was not yet beneficial.

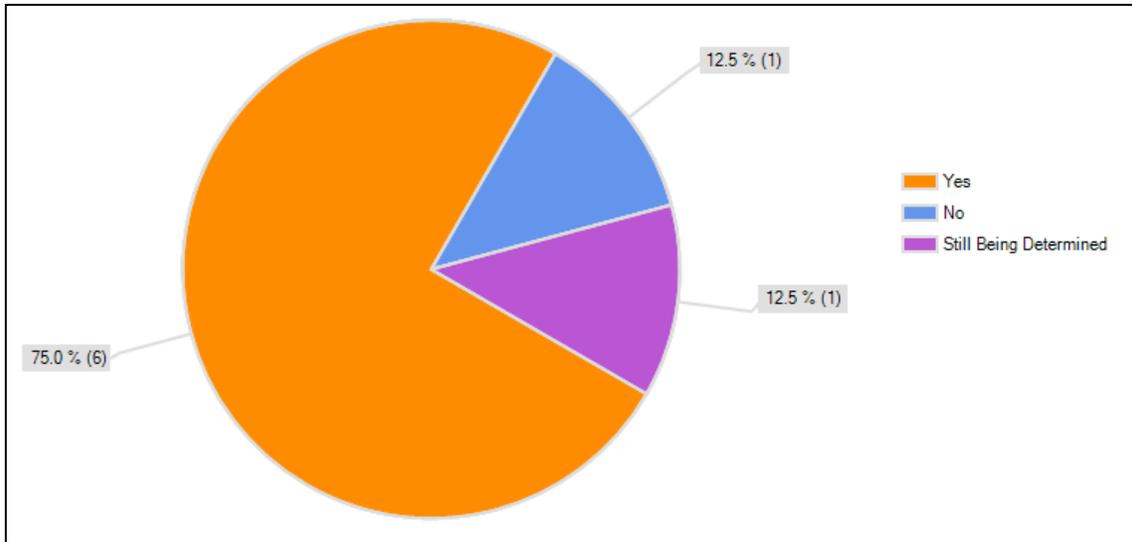


Figure 19. Workforce Benefits of New Culture

Tier 1 & 2 (Mid-Upper Management)

1. Knowledge Transfer Question Number 1: *Which Employment Type constitutes “all” personnel in the workplace under your control?*

Team C4ISR organizations are a codependent group either feeding or using DAC personnel as mission dictates. These DAC personnel are divided into two categories: Core personnel who belong to their parent organization and Matrix personnel working in other organizations on a lend/lease as needed. Together, 100 percent of the Tier 1 & 2 leaders report that DAC personnel are a part of their organization.

SETA supplemental personnel support is contracted through a number of professional private companies as mission workload requires, and increases or decreases as that workload fluctuates. Forty-seven percent of respondents indicate SETA personnel are in their workforce. Military personnel are the smallest group within C4ISR, and the majority occupies key leadership positions. Twenty-three percent of the mid-upper managers indicate that military personnel make up a portion of their workforce (Figure 20).

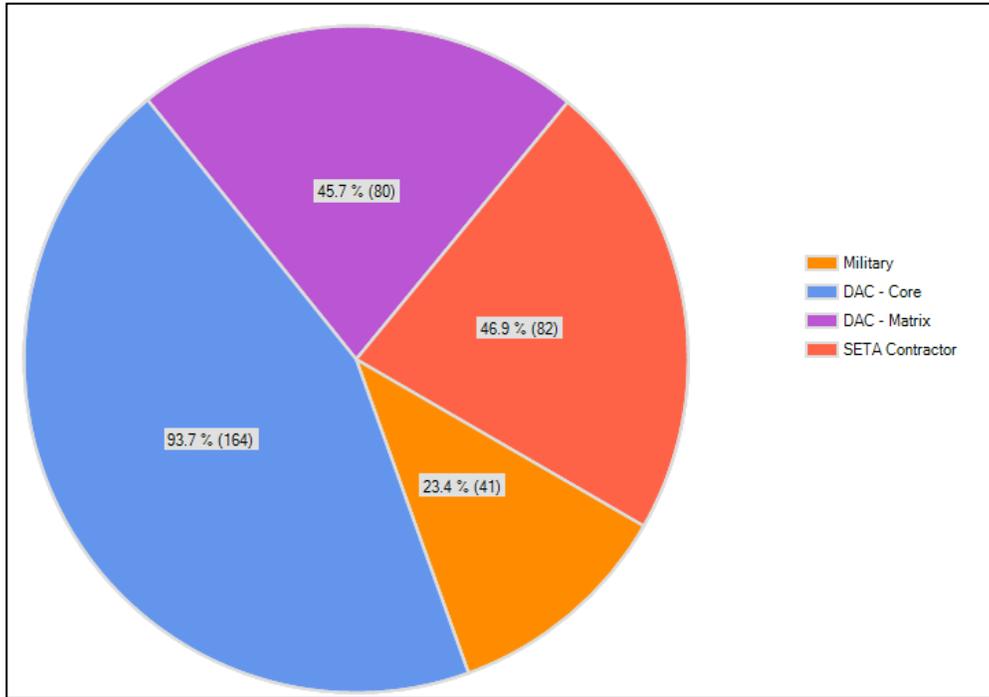


Figure 20. Workforce Employment Types

2. Knowledge Transfer Question Number 2: *Reference question above: Which Employment Type(s) is/are critical center of mass (loss did or will equate to mission impact/failure)?*

DAC personnel are without a doubt the core employment type, and, due to long tenures, have the most knowledge of all types. This is the key group working mission issues and includes the workforce members who have worked the longest on programs—thus building up the greatest transient background knowledge and possessing the largest, more enduring information and personal networks. Tier 1 & 2 leaders unanimously cite this as their key or critical center of mass employment type in their workforce.

Thirty-one percent of the respondents indicate that their SETA workforce is critical to their mission. SETA contractors share many of the same workload and knowledge capture characteristics as their government counterparts, but cannot speak for the government. Their workloads and critical assistance on programs or other worksite requirements are sometimes the key way an issue can be worked. The SETA contractor is often a former military or DAC, and all are highly trained and experienced.

Military personnel are assigned based on leadership roles and on user expertise required to successfully bring work packages to successful completion. Ten percent of the respondents report having military in their workforce and that those personnel are critical to their mission success (Figure 21).

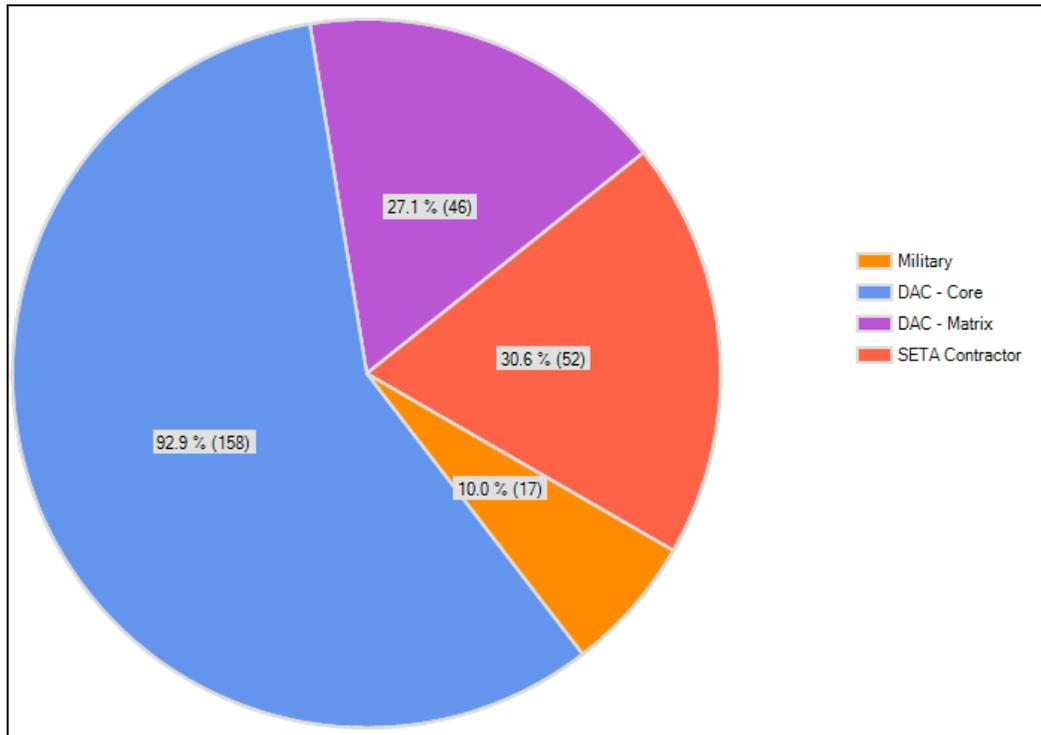


Figure 21. Critical Workforce Employment Types

3. Knowledge Transfer Question Number 3: Was *your workplace relocated due to BRAC?*

Reference Figure 22, all Tier 1 & 2 leaders responded their workplace as having relocated to APG from either Fort Monmouth or Fort Belvoir. Nineteen percent reported their relocation as not applicable, due to the fact that they were personally already at APG when they were selected to take their current leadership positions.

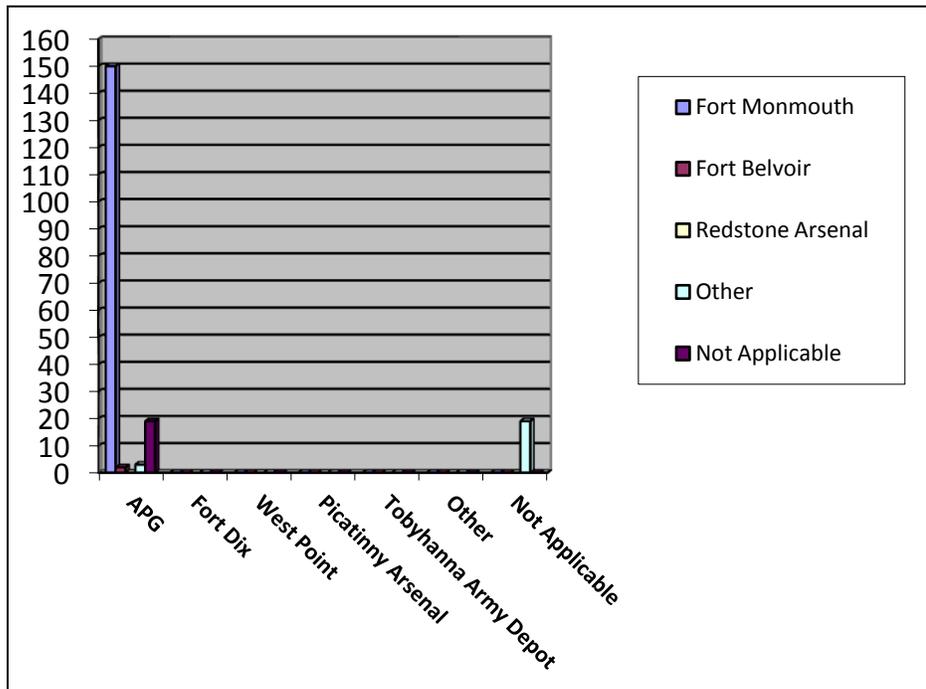


Figure 22. Workplace Relocated From/To

4. Knowledge Transfer Question Number 4: *What was your organization's population during the BRAC?*

This survey question was used to focus the Tier 1 & 2 leaders on their total workforce strength for subsequent questions and a detailed analysis here would not add value to this research at this time. Additionally, the data appear inaccurate as the row titled "Org population pre-BRAC" should total the next two rows of "Total personnel relocated" and "Total vacant positions moved." It cannot be determined in a timely fashion how or where the data were corrupted or inaccurately reported (Table 2).

Pre-BRAC Organizational Workforce Strength

Military												
	0	1 thru 10	11 thru 20	21 thru 30	31 thru 40	41 thru 50	51 thru 60	61 thru 70	71 thru 80	81 thru 90	91 thru 100	Response Count
Org population pre-BRAC	34	34	4	0	0	2	0	0	0	0	0	75
Total personnel relocated	43	27	1	0	0	2	0	0	0	0	0	74
Total vacant positions moved	52	12	0	0	0	0	0	0	0	0	0	65

DAC - Core												
	0	1 thru 10	11 thru 20	21 thru 30	31 thru 40	41 thru 50	51 thru 60	61 thru 70	71 thru 80	81 thru 90	91 thru 100	Response Count
Org population pre-BRAC	1	50	32	19	1	12	2	3	5	3	4	149
Total personnel relocated	9	68	26	14	1	2	4	5	1	0	1	140
Total vacant positions moved	30	68	11	6	0	1	0	0	1	1	0	125

DAC - Matrix												
	0	1 thru 10	11 thru 20	21 thru 30	31 thru 40	41 thru 50	51 thru 60	61 thru 70	71 thru 80	81 thru 90	91 thru 100	Response Count
Org population pre-BRAC	26	39	11	4	1	3	0	0	1	1	2	93
Total personnel relocated	29	36	8	5	0	1	3	0	0	0	1	85
Total vacant positions moved	44	18	6	0	1	0	0	0	0	0	0	70

SETA (Contractor)												
	0	1 thru 10	11 thru 20	21 thru 30	31 thru 40	41 thru 50	51 thru 60	61 thru 70	71 thru 80	81 thru 90	91 thru 100	Response Count
Org population pre-BRAC	16	47	11	5	1	5	3	2	0	1	0	100
Total personnel relocated	25	41	10	6	0	4	1	1	1	0	1	92
Total vacant positions moved	38	30	2	0	0	0	0	0	0	0	0	73

												Question Totals
Other (please specify total personnel if over 100)												16
<i>answered question</i>												157
<i>skipped question</i>												115

Table 2. Pre-BRAC Workforce Strength

5. Knowledge Transfer Question Number 5: *Reference question above: If less than 100 percent of incumbents relocated, how were the losses backfilled?*

Seven backfill methods of dealing with personnel loss and four employment types were listed in this question for the Tier 1 & 2 leaders to provide a picture of the magnitude (minimum to severe) of the knowledge capture and transfer issue (Figure 23).

Four methods when grouped reflect a partial mitigation of the problem: (1)

Downsized/Eliminated Position(s), (2) Management Reassignment(s), (3) Internal

Competitive Fill, and (4) Not Applicable. These methods maintain organizational policy and procedure knowledge, lower training requirements, bring some networking and historical perspective back to the lost incumbents position where applicable, and in the case of position elimination, reduces the problem in all forms except for possible historical knowledge loss that may or may not be needed in some way in the future. Three methods (External Competitive Fill, Intern[s]), and Still Open) aggravate the need for knowledge capture and transfer since the longer a position remains open or filled with a new person, the more difficult the knowledge loss problem may become. For clarity, internal competitive fill is the hiring of a current DAC government workforce person and external competitive fill refers to hiring a new person into the government workforce.

Informal discussions detail that 88 percent of the Tier 1 & 2 leaders who reported having military personnel in their workforce listed losses as not a major issue in knowledge transfer because military transfers every 2 to 4 years. Military leaders who move out of a position are generally already backed up with knowledge capture by members of their workforce. The remaining 12 percent did not see the slots remaining open as much of a knowledge transfer issue but saw getting a military person as a greater problem.

Fifty-nine percent of the Tier 1 & 2 leaders who reported having SETA contractor personnel in their workforce listed losses as not a major issue in knowledge transfer as positions were eliminated, or incumbents who moved were realigned within the organization. The remaining 41 percent, however, reported knowledge transfer issues based on newly assigned replacement personnel or positions still not filled.

Fifty-seven percent of the Tier 1 & 2 leaders who reported having DAC-Matrix personnel in their workforce listed losses as not a major issue in knowledge transfer as positions were eliminated, or incumbents who moved were realigned within the organization. The remaining 43 percent, however, reported knowledge transfer issues equally based on newly assigned replacement personnel or positions still not filled.

Tier 1 & 2 leaders all reported having DAC-Core personnel in their workforce but were consistently split nearly 50-50 when listing knowledge transfer issues or not, based on the position backfill methods available and described above.

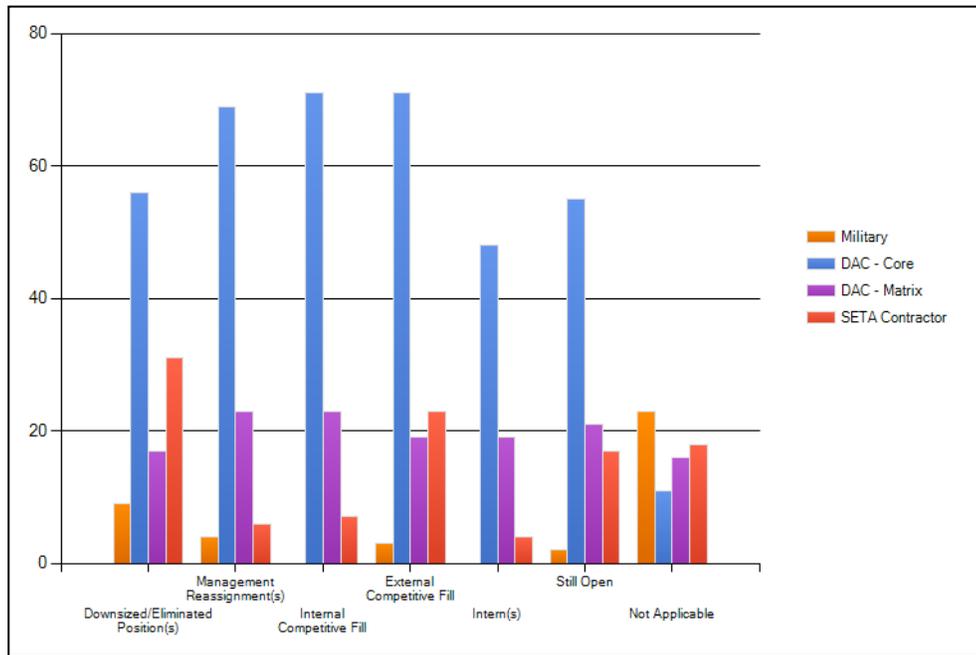


Figure 23. Workforce Loss Backfills

6. Knowledge Transfer Question Number 6: *What “PRE”-BRAC generational percent were each of your workplace employment types?*

This survey question was used to focus the Tier 1 & 2 leaders on their total workforce generational composition before BRAC for subsequent questions and a detailed analysis here of Table 3 would not add value to this research at this time.

Workforce Pre-BRAC Generational Makeup

Military:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	24	4	0	1	0	0	0	0	0	1	1	31
Baby Boomer	16	9	2	0	2	3	1	3	0	0	0	36
Gen-X	13	7	2	1	2	5	1	1	3	4	8	47
Millennial	17	3	1	2	0	1	2	1	0	1	0	28
iGeneration	18	2	1	0	0	0	0	0	0	0	0	21
Do not know	13	0	1	0	0	0	0	0	0	0	1	15
N/A	16	0	0	0	0	0	0	0	0	0	5	21

DAC - Core:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	13	30	7	2	6	1	1	0	2	0	1	63
Baby Boomer	2	9	16	10	14	13	20	14	15	7	11	131
Gen-X	1	15	23	25	13	12	7	5	3	2	1	107
Millennial	6	28	20	5	5	4	2	1	0	2	1	74
iGeneration	15	17	2	1	1	0	0	0	0	0	0	36
Do not know	12	3	2	0	0	0	0	0	0	0	3	20
N/A	12	0	0	0	0	0	0	0	0	0	1	13

DAC- Matrix:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	15	5	2	1	1	1	0	0	0	0	0	25
Baby Boomer	6	6	4	6	9	9	4	3	7	1	6	61
Gen-X	7	4	8	11	5	6	4	2	0	0	4	51
Millennial	9	12	6	4	0	0	0	1	1	0	2	35
iGeneration	13	6	3	0	0	0	0	0	0	0	0	22
Do not know	10	0	0	0	0	0	0	0	1	0	5	16
N/A	11	0	0	0	0	0	0	0	0	0	4	15

SETA:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	13	13	2	1	0	3	0	0	0	1	0	33
Baby Boomer	4	8	5	7	9	9	6	6	5	0	8	67
Gen-X	5	7	7	12	5	12	4	2	1	0	1	56
Millennial	5	17	5	3	0	2	2	0	0	0	0	34
iGeneration	11	6	0	0	1	0	0	0	0	0	0	18
Do not know	9	1	0	0	0	0	0	0	0	0	6	16
N/A	10	0	0	0	0	0	0	0	0	0	4	14

												Question Totals
<i>answered question</i>											158	
<i>skipped question</i>											114	

Table 3. Workforce Pre-BRAC Generational Makeup

7. Knowledge Transfer Question Number 7: *What “POST”-BRAC generational percent were each of your workplace employment types?*

This survey question was used to focus the Tier 1 & 2 leaders on their current total workforce generational composition after BRAC for subsequent questions and a detailed analysis here of Table 4 would not add value to this research at this time.

Workforce Post-BRAC Generational Makeup

Military:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	13	4	0	1	0	0	0	0	0	1	1	20
Baby Boomer	9	4	2	3	1	2	1	1	0	0	0	23
Gen-X	5	6	1	5	1	5	1	1	2	1	8	36
Millennial	9	3	1	2	0	2	2	1	0	2	0	22
iGeneration	11	3	0	0	0	0	0	0	0	0	0	14
Do not know	8	0	1	0	0	0	0	0	0	0	3	12
N/A	11	0	0	0	0	0	0	0	0	0	6	17

DAC - Core:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	16	25	2	5	0	0	0	0	0	0	0	48
Baby Boomer	0	18	16	23	13	16	8	12	9	3	7	125
Gen-X	0	8	19	30	17	17	11	8	2	2	2	116
Millennial	3	18	23	10	18	3	2	4	2	1	1	85
iGeneration	13	21	3	2	0	0	0	1	0	0	0	40
Do not know	10	2	1	1	0	0	0	0	0	0	3	17
N/A	11	0	0	0	0	0	0	0	0	0	1	12

DAC - Matrix:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	15	6	1	2	0	0	0	0	0	0	0	24
Baby Boomer	5	8	5	8	9	8	1	4	3	1	3	55
Gen-X	8	1	10	6	8	7	4	3	0	0	2	49
Millennial	8	7	7	4	1	2	0	1	1	1	3	35
iGeneration	13	6	2	1	0	0	0	0	0	0	0	22
Do not know	8	1	0	0	0	0	0	0	0	0	5	14
N/A	10	0	0	0	0	0	0	0	0	0	4	14

SETA:	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%	Response Count
Traditionalist	12	10	0	0	1	3	0	0	0	0	0	26
Baby Boomer	4	6	5	9	10	10	3	3	2	3	5	60
Gen-X	3	8	5	12	5	13	3	3	1	1	2	56
Millennial	3	10	7	7	3	2	2	0	0	0	0	34
iGeneration	11	7	0	0	0	0	1	1	0	0	0	20
Do not know	8	0	0	0	0	0	0	0	0	0	5	13
N/A	9	0	0	0	0	0	0	0	0	0	4	13

												Question Totals
<i>answered question</i>												159
<i>skipped question</i>												113

Table 4. Workforce Post-BRAC Generational Makeup

8. Knowledge Transfer Question Number 8: *Was generational makeup a deciding factor in how you transferred knowledge from departing employees to new hires?*

Generational factors were not a deciding factor (Figure 24) in knowledge transfer of Team C4ISR departing employees or the responding Tier 1 & 2 leaders as:

a. It was definitely not:

- 1) Military: 53 percent
- 2) DAC Core: 64 percent
- 3) DAC Matrix: 60 percent
- 4) SETA Contractors: 59 percent

b. Tied to the “No” group was the “It was not applicable” respondents who reported these figures:

- 1) Military: 38 percent
- 2) DAC Core: 13 percent
- 3) DAC Matrix: 25 percent
- 4) SETA Contractors: 27 percent

c. A significantly lower number of Tier 1 & 2 respondents considered the younger makeup of their new personnel as significant enough to transfer knowledge to them via the means (Internet and web-based training/blogs, FileNet, etc.), more accustomed to those generations:

- a. Military: 9 percent
- b. DAC Core: 23 percent
- c. DAC Matrix: 15 percent
- d. SETA Contractors: 14 percent

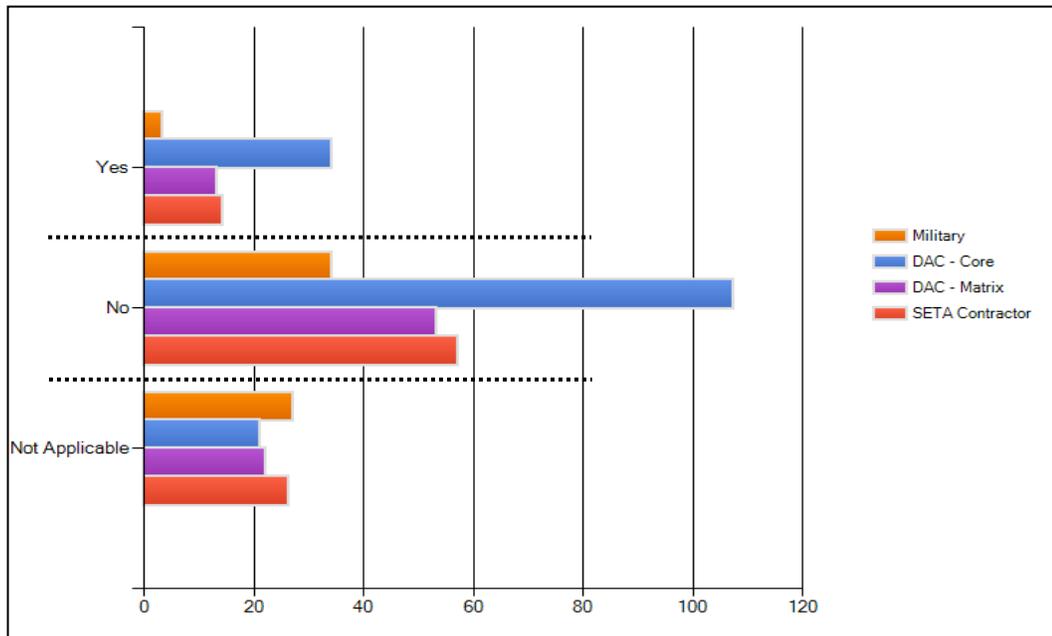


Figure 24. Workforce Generational Hiring

9. Knowledge Transfer Question Number 9: *How did or are you transferring knowledge to new personnel?*

Morrowing their senior leaders, the Tier 1 & 2 leaders overwhelmingly said their primary focus was their DAC Core personnel and that they used all means at their disposal to transfer knowledge to new personnel. The strongest and only unanimously agreed-on methods used by the Tier 1 & 2 leaders were the two areas of “Incumbent Knowledge Transfer” and “Team Member Mentoring.”

Diverging from their senior leadership however, the Tier 1 & 2 leaders split among four areas where they were again DAC-focused and which involved reliance on new employee “Personal Experience,” “Internet Training,” “On-the-Fly as time and situations allowed,” and “On-site Group Training”.

From this point on, the military, matrix DACs, and SETA contractors all fared the same in Tier 1 & 2 focused knowledge transfer. Twenty-five percent of respondents split their methods of knowledge capture and transfer among all the areas.

The lowest two categories were the most hands-off and negative methods of “Fingers Crossed—they are on their own” and “Not Applicable,” but were still areas of choice for 8 percent of the respondents. Note: “Not Applicable” was chosen where the

respondent was new to the leadership role and did not have the opportunity to influence knowledge capture or transfer (Figure 25).

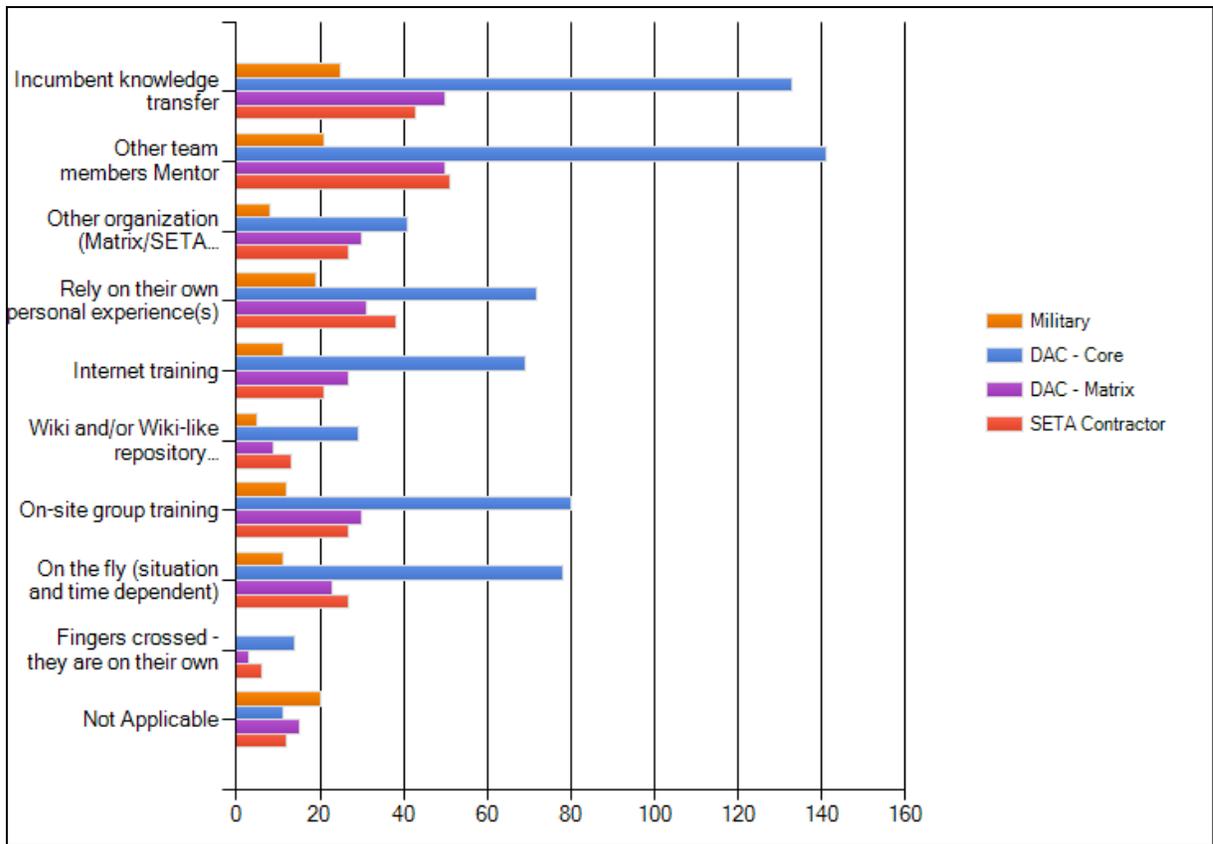


Figure 25. Knowledge Capture/Transfer Methods

10. Knowledge Transfer Question Number 10: *Was the more than 5-year BRAC period (from announcement to final organizational move) optimal in minimizing the impact on knowledge transfer by allowing sufficient time to train new hires at their original location and/or at their new location?*

Fifty-five percent of the responding Tier 1 & 2 leaders believe the available time under this BRAC was sufficient to provide an orderly transfer of knowledge and training. An additional 10 percent felt less time was required (75 percent saying the current 5-year BRAC should be reduced to 3 years and 25 percent favoring 2 years). Anecdotal comments during informal discussion sessions went so far as to show many of these felt that “like a vacuum, knowledge transfer and training will take the time allocated to it, even if it is too much.” On the other hand, 16 percent felt more time was required (half

stating an additional 1 month to 24 months would have been better, and the other half stating this was not a quantifiable situation). A full 19 percent felt the best way to handle the trouble or threat of knowledge loss was just to not have moved at all.

11. Knowledge Transfer Question Number 11: Which areas of knowledge were most impacted by your relocation?

As depicted in Figure 26, and like their senior leaders, the consensus among the responding Tier 1 & 2 leadership was that there was a knowledge drain in their organizations and that there was an impact. However within that consensus, there were significant differences as to whether there was a knowledge transfer loss, and to what extent. Fully 33 percent of the respondents did not see any loss, or said any loss that occurred had no impact on their mission. Only 20 percent believed there was a major impact; but they felt this impact would be mitigated within a year. The remaining 47 percent of respondents saw a knowledge loss of some form and an impact on their mission, but all these said it was recoverable anywhere from immediately through a few months. Therefore tying back to Figure 2, the shareable data and paper/stored drive knowledge, whether technical or other, were not seen as a loss, or, if some were lost, they were seen by the Tier 1 & 2 leaders as already recovered or to be recovered within the first year after the move was completed. The more difficult areas of nontransferrable employee brain-stored knowledge and nonshareable data/e-mail/stored but just-too-hard-to-recover information, etc., were seen as with their senior leaders, by all Tier 1 & 2 leaders as having an impact (particularly on organizational processes, culture, and procedures) but that the impact would be self-corrected within the year.

One area: Technical knowledge was considered as a critical loss by 32 percent of these leaders, and that it will take more than a year to recover.

Informal discussions provided some further detail on why this was not as much a problem for the Tier 1 & 2 leaders. Though some, like their senior leadership, stated the change in culture brought about by the compulsory change of environment, duty location, significant new workforce numbers, etc., was already being seen and felt as a positive change for the organizations and overall warfighter support. Many were more pessimistic in their assessment that it is “just the cost of doing business.” Pressed to explain, they stated that, when they lose a person in a more normal way (single loss), they do not

capture the nonrecoverables like personal ways of networking, or personal e-mails. This move was the same thing but with a greater loss of workforce in a short time. However, they also said they were surprised by the vitality and process alterations already being felt as the result of the younger/newer generational makeup of their labor forces. As the newer workers came online and began to take on their responsibilities, those employees would build their own new networks and would bring newer and fresher dynamics to bear on their work.

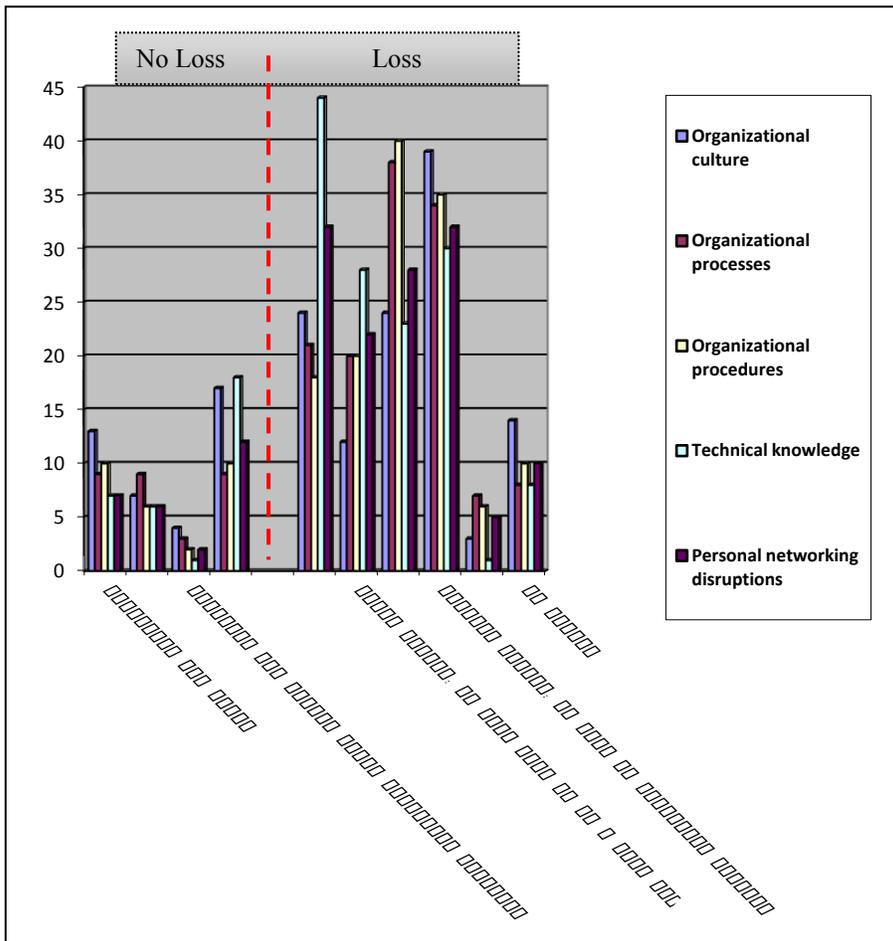


Figure 26. Knowledge Areas Most Impacted

12. Knowledge Transfer Question Number 12: *Subjectively, based on knowledge transfer is there a perceptible increase or decrease in customer service by your workforce since it relocated to your new duty location?*

Seventy percent of the responding Tier 1 & 2 leaders said there was at least an intermittent decrease in customer support, which in some cases was significant. Twenty percent of those respondents, however, admitted that this dip in service had nothing to do with knowledge transfer and more to do with incumbent moves that took them out of the work net for extended periods, and to the inexperience of some new hires. Thirty percent of the respondents said they actually experienced an uptick in customer satisfaction and support, but 35 percent of those were upfront in stating this had nothing to do with new-hire superiority in knowledge but anecdotally said was most likely due to a change in operational culture experienced by personnel who relocated to APG (Figure 27).

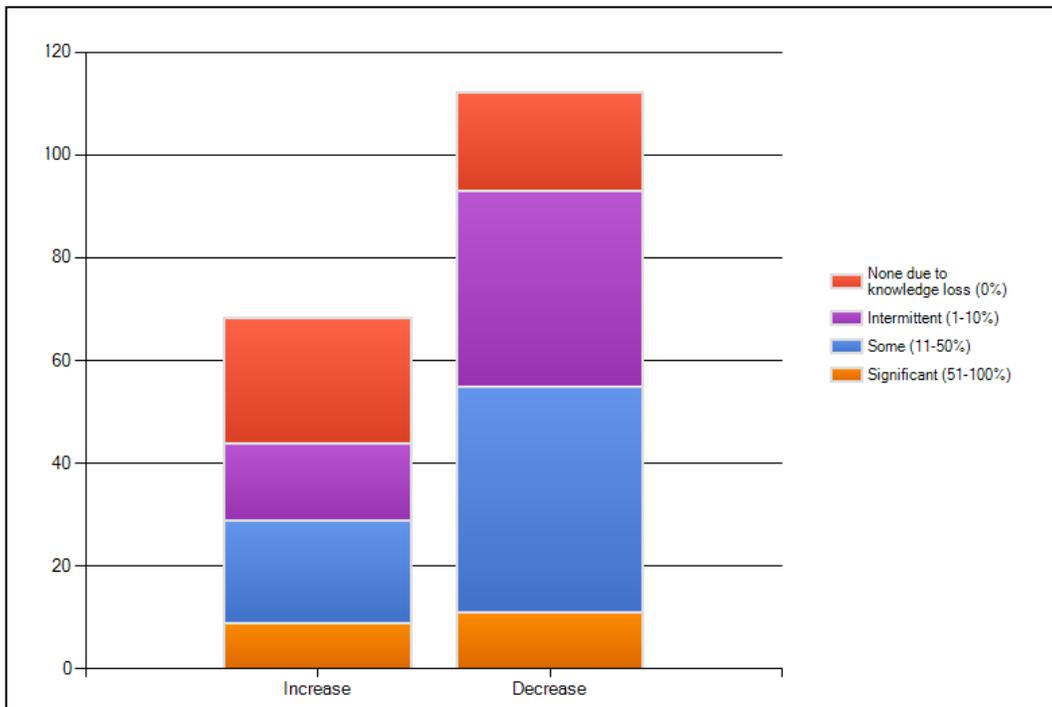


Figure 27. Customer Service Increase or Decrease

13. Knowledge Transfer Question Number 13: *Has the loss of workplace incumbents and their historical knowledge & experience in your organization actually been beneficial by bringing in new blood/talent?*

Forty-two percent of the Tier 1 & 2 leaders still are assessing the impact of the new talent, while 37 percent believe (as do their seniors) that the BRAC move, while organizationally painful, was more beneficial than not. Twenty-one percent of the

respondents are certain the new talent was not yet showing any positive benefits for their organizations.

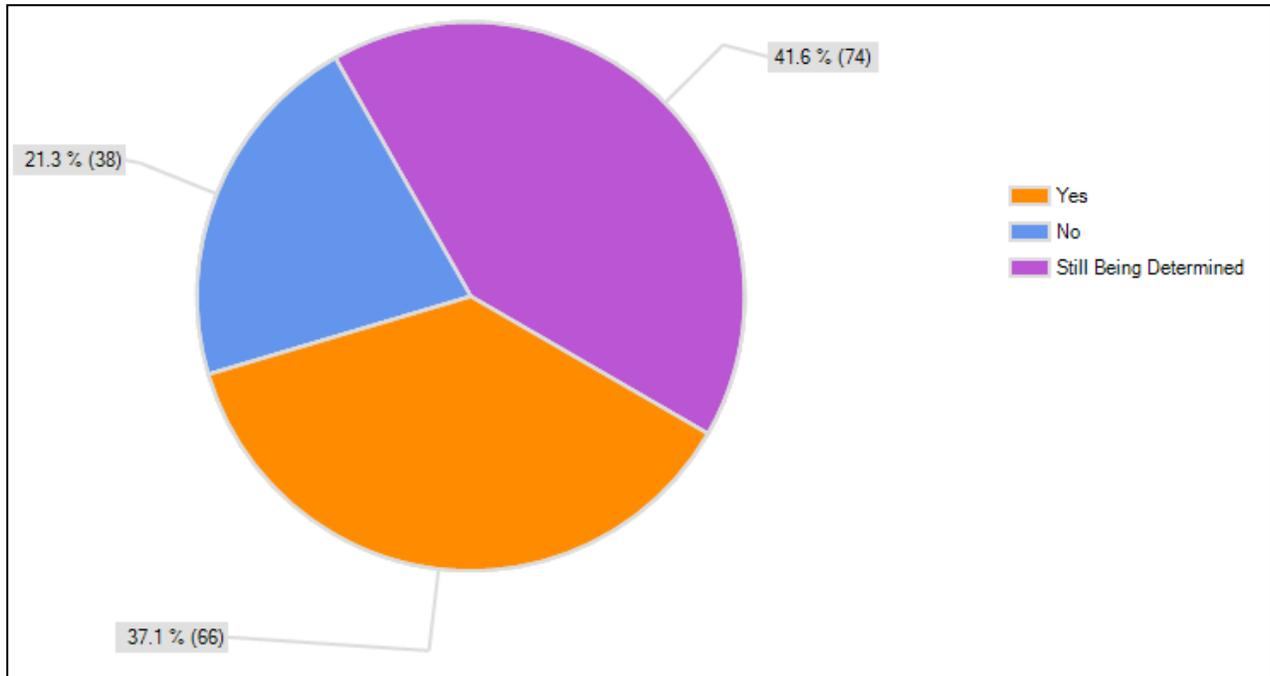


Figure 28. Workforce Benefits of New Culture

Section 7: Overall Summary

This chapter sets out both objective and subjective facts regarding the research, found in the literature review, provided via the surveys, and obtained through informal discussions (individual and group unofficial/unrecorded interviews). Results were presented in eight sections and looked at generational mixes as part of the knowledge-transfer dilemma and corrective action.

A total of 419 surveys were sent to selected Team C4ISR leader employees based on current (as of January 2012) organizational line and block charts provided directly by assigned organizational PoCs.

Response rates were surprisingly similar in the Senior Leader and Tier 1 & 2 surveys (69 percent and 68 percent, respectively), though both fell short of the research self-imposed synthetic/desired target of 75 percent each. Of the 283 total survey responses, 171 leaders (61 percent) were from the baby-boomer generation and 78 (28 percent) were from the other

generations. These generational analytic data points are relevant in reference to the respondents' approach toward knowledge capture and transfer methods, intensity, and concern.

Knowledge is distributed, which produces a significant capture/transfer problem. Thirty-eight percent of knowledge is easily captured and transferable, but a vast 62 percent is much harder to quantify and exploit as it resides in the hearts and minds of each individual and rarely makes it into print or onto a shared drive.

Team C4ISR's BRAC relocation was expected to result in major personnel losses (projected as high as 70 percent). Together with the anticipated loss of knowledge—nontranscribed daily and historical knowledge, business processes, and business relationships, organizational culture, etc.—this was expected to devastate the overall mission of warfighter support. As BRAC progressed and mitigating circumstances took hold, the “Team C4ISRs Plan to implement the BRAC 2005 Law” was actively engaged, actual personnel losses ended up in the 30 percent and more range, and significantly large numbers of new hires were brought into the community over the BRAC years—all of which helped mitigate the overall loss of knowledge.

Unfortunately, 32 percent of the invited current and onsite 419 senior and middle-upper managers/leaders did not open their survey invitations, and the loss of their insight and strategic information hampered and minimized the overall impact of this research.

Results of this research validate the knowledge capture dilemma and provide interesting insight into unintended consequences of “mass purge/new blood” on the possible benefit of absorbing a short-term continuity loss while gaining new and younger talent with fresh concepts and refreshed networking. The post-survey informal assessment indicates that the senior leaders have recognized that the post-BRAC health of their organizations is good, and that the huge infusions of new talent and younger generations are combining with the greater APG's different official culture's ability to provide benefits beyond short-term nontechnical knowledge loss.

CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

“ ‘Tacit’ knowledge resides in people’s brains and ‘explicit’ knowledge resides in the organizational systems and documents, both electronic and on paper. ...” Gamble and Blackwell, in their book Knowledge Management State of the Art, identify yet a third type of knowledge, ‘implicit knowledge’, which is embedded within an organization’s processes and procedures, products or services. .” (Carter & Associates, Inc., 2001).

Introduction

This research was intended to determine if the U.S. Army decision to relocate the thousands of personnel and the entire infrastructure of Team C4ISR caused mission perturbation and customer (warfighter) support degradation via knowledge loss. Now that the relocation of thousands of functions and personnel has concluded, the question (as stated at the start of this research) lingers: Has the ability of Team C4ISR to perform its acquisition, administrative, and sustainment mission in a timely and professional manner increased, decreased, or remained unchanged? The study also considered the perceptions different sectors of the Army Team C4ISR community have concerning younger talent joining the team en masse and the impact of the culture change from the Fort Monmouth area to the APG area. This final chapter of the research will appraise results outlined in Chapter 4 and compare those results to the two research questions and three hypotheses, and draw conclusions and implications for further research, and provide recommendations.

“This is an interesting topic and one which has been going on for years and will only accelerate as the baby boomers head for the exits in rapidly growing numbers over the next decade. I believe to address the knowledge-transfer challenge a strategy must be developed on how to facilitate the sharing and flow of information, the generation of knowledge (yes, it’s different from information), and how to retain what is important [in this case] to the acquisition mission. Thinking you can retain everything is a waste of time.” (Anonymous David, 2012)

Summary of Results

Tying back to the three hypotheses, the following are summary results of the study:

*H1: A counterintuitive **POSITIVE** impact: Among both new and incumbent workforce supervisors there is a perception of an increase in C4ISR knowledge and improved support to the end warfighter customer user since completion of the BRAC 2005.*

Eighty-eight percent of the senior leaders report as the worst-case some decrease, and 50 percent of those respondents cite either no loss or some increase in service. Thirty percent of respondents said they actually experienced an uptick in customer satisfaction and support, but 35 percent of those were upfront in saying this had nothing to do with new-hire superiority in knowledge but anecdotally said most of this was likely due to a change operational culture experienced by personnel who relocated to APG.

*H2: The intuitive and feared **NEGATIVE** impact: Among both new and incumbent workforce supervisors, there is a perception of a decrease in C4ISR knowledge and/or support to the end warfighter customer user since completion of the BRAC 2005.*

Twelve percent of the senior leaders have experienced a significant decrease in their organizations' customer (warfighter) services. Seventy percent of the responding Tier 1 & 2 leaders said there was at least an intermittent decrease in customer support that, in some cases, is significant. However, 20 percent of those respondents admitted that this dip in service had nothing to do with knowledge transfer and more to do with incumbent moves that took them out of the work net for extended periods and to the inexperience of some new hires.

“Part of the problem with knowledge sharing/management is that most of us figure we’ll just ‘figure it out.’ We see this in acquisition, where PMs don’t want ideas from other PMs or other sources—he ‘not invented here’ syndrome. It’s just part of human pride to not want to take the time to understand lessons learned from the past because we’re good enough to ‘figure it out’ and do it ‘our way’. ...” (Anonymous Scott, 2012).

*H3: A counter-intuitive **NEUTRAL** impact: Among both new and incumbent workforce supervisors, there is a perception of no perceptible change in C4ISR knowledge and support to the end warfighter customer end user since completion of the BRAC 2005.*

Seventy-five percent of the senior leaders believe the BRAC move, though organizationally painful, was more beneficial than not (Figure 19). Another senior was still assessing the impact of the new talent, while one was certain the new talent was not yet beneficial. Forty-two percent of the Tier 1 & 2 leaders are still assessing the impact of the new

talent, while 37 percent believe (as do their seniors) that the BRAC move, though organizationally painful, was more beneficial than not (Figure 20). Twenty-one percent of the respondents were certain the new talent was not yet showing any positive benefits for their organizations.

Bottom Line: The vast majority of the leadership feel the move has been either beneficial because of new talent and culture or at least has had only a slightly negative impact on their warfighter support.

Based on the results as shown in Chapter 4, the original research questions can be answered within the limits and assumptions of the research:

Q1: Did knowledge transfer before, during, and after the relocation of organizations result in positive, negative, or no change support to the warfighter customer?

Among both new and incumbent workforce supervisors, there is an opinion of no perceptible change in C4ISR knowledge and support to the warfighter customer end user since completion of the BRAC 2005.

A majority of the leaders in the informal discussions surfaced, without researcher prompting, the change of culture between how things worked at Fort Monmouth and what they see as a more flexible and adaptable APG culture. Without exception, these leaders were complimentary and predicted a faster recovery for Army C4ISR than originally anticipated.

Q2: Did the replacement of significant numbers of workers by new workers result in an organizational paradigm shift (i.e., has the organization's culture significantly changed)?

One of the more essential data points is how personnel losses were being addressed because it solidifies how much of an issue knowledge capture/transfer actually is in the mega-move of personnel and organizations.

Other Observations Include:

A. The Team C4ISR is a very diverse group, and the missions span the entire life cycle of the acquisition spectrum. Therefore, maintaining uninterrupted customer support while working split-based (part of the force were early movers, and the majority remained at the originating locations) and out of very antiquated facilities around APG, while also having a never-ending stream of people in various stages of movement, was a very volatile situation through all the 5-plus BRAC years. A number of subordinate organizations in all the big-five (ACC-APG, CECOM, CERDEC, PEO C3T, and PEO IEW&S) also work under the idea that daily

“‘*preparation time*’ really isn’t relevant, but ‘*reaction/responsive time*’ is” (Anonymous PM, 2012).

- B. If there was ever an area where we need creative leadership, knowledge capture and transfer is it. At APG (and Army-wide), most commands, organizations, offices, and agencies are in some form of downsizing/efficiency capitalization mode. This exacerbates the problem and makes many of the ideas to retain knowledge very difficult to implement. We (the DoD) have not done a very good job at executing the various mandates to formulate knowledge capture. We appear to just not like sharing our knowledge, documenting our lessons learned, passing along successes and failures, etc. We lack the discipline to develop solid baselines. We are simply not committed to putting in the effort to collect our knowledge and baseline our processes.
1. “I think before we try to fix this area, we need to dedicate a little time to find the underlying reason why we are so poor at documenting, preserving, and sharing our intellectual capital. If we did a better job, it might not be so important to retain or rehire [recall] our senior folks.” (Anonymous Ray, 2012)
 2. “I believe the bigger issue is a simple benefit-to-burden ratio. Taking time and effort to document lessons learned and developing solid baselines does not take precedent over the mission at hand for most people and organizations. ... The key problem for me: It is not my mission to ensure those that follow have my lessons learned or to establish baselines for my key processes; procuring and fielding new systems to the warfighter is.” (Anonymous Ray, 2012)
- C. There is an inherent agility in many organizations since they are consistently in a “‘learning mode’” vs. “‘doing routine tasks.’” ... Many of these organizations also have a workforce made up of senior engineers leaning on tacit or foundational/general knowledge vice detailed process and procedure.” (Anonymous Jim, 2012)
- D. “The unexpected and welcome direct expedited hire of SETA contractors into government positions was an unanticipated and very useful way in keeping my government talent base solid.” (Anonymous Jim, 2012)
- E. Though discussed and required by the Team C4ISR BRAC move master agreement, in reality most organizations had no formal or active method or “knowledge transfer” plan.

Some of the more service-oriented operations were attempting different tacit knowledge capture, but it was more of a Don Quixote attempt to slay the knowledge-transfer dragon.

- F. The recent downsizing and workforce reduction efforts have caused all the leaders more angst than the 5-plus years of the BRAC. With BRAC, they knew what the end state was, but not now.

Exacerbating this further is an issue lingering in the shadows (though treated as a new phenomenon): the increasing number of personnel who relocated over the years of BRAC, put in the number of years required as “payback,” and now are leaving their jobs and continuing the tacit knowledge drain.

“Within the next 2 to 6 years, if there is not an aggressive training strategy and plan developed to capture the specialized knowledge and training of the seasoned government employees projected to retire (based on years of service) within NV/RSTA, there may be increased risk associated with maintaining the same level of mission capability.” (PM NV/BRAC 2011 (Draft) After Action Report, September 15, 2011)

The literature-review evidence and theory are consistent with the recent life experiences by hundreds of leaders that maximum knowledge transfer is critical, and sufficient shared time or connectivity between the departing employee and the new one is vital, but that both can be overcome if required. Despite very advanced organizational planning, significant personnel and training resource availability, consistent workforce prodding by Team C4ISR leaders at all levels, and every possible effort to assist the departing workforce, the loss of the “tacit” knowledge stored in the departing personnel’s heads and the gigabytes of personal e-mail/disorganized hard drives— years of networking, and other program life experiences still were lost forever. But just as compelling is the undeniable fact that new employees and terabytes of “explicit” and “implicit” captured knowledge can relatively quickly overcome the short-term tacit knowledge losses. New interpersonal networks are built and processes streamlined without the baggage of negative (i.e., the old way) tacit knowledge.

As the direct result of BRAC 2005, a sea change was forced on the Army C4ISR community, and the new government workforce age distribution shifted to a younger generation due to retirements. Providing some counterweight to this, the SETA contractors stayed more consistent as a senior and balancing talent pool.

Implications for Further Research

While this study was limited to the objective realities and subjective perception of specific selected leaders' assessing the impact of knowledge capture and transfer within the BRACed Army Team C4ISR specific organizations, studies also should be conducted of other large-scale relocated organizations. Specifically, those future studies should focus on organizations that moved distances greater than the Fort Monmouth and Fort Belvoir to APG (160 miles) to ascertain if knowledge transfer issues become more acute and complex when incumbent personnel lack the option to commute on weekends or take mass transit daily. This research demonstrates that studies can be performed that offer information of value to HQDA and DoD leaders overall in evaluating the impacts of their BRAC, reduction in force (RIF), and other downsizing decisions. When fused with other pertinent data on BRAC impacts—such as culture, new and younger generation mass infusion over a short time, use of available resources such as telework—a more complete mosaic can be provided to leaders on the impact of mega events such as BRAC in knowledge capture and transfer.

Research limitations cry out for the DAU to contract with a safer-named vehicle than SurveyMonkey to distribute surveys and other research vehicles in order to improve the statistical significance, application, and scope of research. In a world of spam, hacking, viruses, and other serious IT issues, organizational and facility firewalls and threat awareness cause many personnel to question the validity of an e-mail bearing the name SurveyMonkey. While still not guaranteeing that all invitees will respond, changing the survey vehicle name will increase the likelihood and number of responses, thus increasing the sample size and improving the statistical significance of study results.

Furthermore, as newer employees continue to enter the workforce in large numbers for another decade and the new cultural environment of APG further permeates the Fort Monmouth Team C4ISR organizations, an updated study could be conducted in 2 to 5 more years to verify knowledge transfer as an issue or as a level 1 and 2 leadership requirement. This updated study could focus on more (currently unknown unknown) damage done over the long haul than any of the current leadership can ascertain. Finally, to give support to the recommendations below, a study could be conducted just to establish what incentives/benefits incumbents need to motivate them to more efficiently document additional perishable and illusive tacit knowledge.

Recommendations

It is recommended that the leadership within each of the Team C4ISR organizations study and review the raw data herein and attempt to implement some changes within their organizations, especially related to ways to motivate and lead the newer generations, as baby boomers were so absorbed by the traditionalists. This immersion is critical not just for cultural absorption, but also for knowledge capture and transfer to continue as the boomer generation retires in ever-increasing numbers. Also, it is recommended that there be workforce training on the importance of saving historical information so knowledge transfer becomes less critical path.

A significant problem was institutionalized in 2006 when the workforce at Fort Monmouth was told it would not be required to relocate until September 15, 2011. This one decision provided personnel with zero incentive to make early move decisions and delayed knowledge capture due to the uncertainty of who truly planned to move and who would not do so. When initiating major relocations for any reason, Army leadership must institute more ideas that would disincentivize the workforce from staying put. Do not actively seek out another federal agency to build a facility (e.g., the VA contracting center) and then assist them in hiring the BRACed-ready workforce of seasoned/skilled people. We, the Army, did that to ourselves. The right hand needs to communicate with the left. These could be strategic discussions between departments and also rules put in place by closure committee on the political side.

“OPM should establish and aggressively use mentors [and] part time telework to hold onto the critical skills for a bit of knowledge capture and transfer catch-up. Realistically, the solution to the next Monmouth/Aberdeen [like BRAC] will require multiple facets to the overall solution. This is very complex and not solvable quickly or through normal activities. It will take time, people and resources to prevent from happening again. [However,], in some cases, maybe people not moving is a good thing culturally.” (Anonymous Mike, 2012)

Finally, it is recommended that senior leadership within the HQDA not view the knowledge transfer issue as anything larger than a first- and maybe second-line leadership imperative day-in and day-out 24/7/365. As long as explicit and implicit knowledge continues to be captured in hard copy or in IT storage, the tacit or personal brain and historical information will continue to take care of itself. Strategically, the bottom line end-result is what is important—not the minutiae of how “I got there or who I talked it over with 3 years ago.”

Summary and Conclusion

Decisions made by elected and political appointee government leaders, military, and Department of the Army civilian managers and supervisors can significantly impact the operations of acquisition organizations. Established standards and procedures of such organizations can be altered, significantly impacting daily and long-term administrative processes and routines. Regardless of intent, these decisions can be a potent force for positive or negative paradigm shift within an acquisition organization, and more specifically the Army Acquisition Workforce's ability/capacity to support the warfighter customer.

This study researched the knowledge transfer process that occurred in the BRAC 2005-2011 relocation of the Army C4ISR workforce, the resultant demographic changes imposed on it through the loss of significant numbers of experienced personnel, and the infusion of new talent ranging from young graduates fresh out of college with no professional experience through prior military with no electronics training and/or acquisition background. The study also touched on the impact of generational mindset shifts due to the loss of a large percentage of more mature/seasoned generations and the equivalent gain of much younger generations.

An additional aspect of the research methodology was to show what the Team C4ISR leadership in these organizations did or plan to do to address knowledge transfer issues, and a literature review looked at generational mixes as part of the knowledge transfer dilemma and corrective action that could have been taken. This literature review did not differ in any significant way from steps taken by the Team C4ISR leadership other than as it applies to generational mix, which does not seem to have been put in the mix by more than a handful of subordinate leaders and organizations.

Knowledge is distributed, contributing to the resultant magnitude of the capture/transfer problem. Thirty-eight percent of knowledge is easily captured and transferable (elicit and implicit), but a vast 62 percent is much harder to quantify and exploit as it resides in the hearts and minds of each individual and rarely makes it into print or onto a shared drive (tacit). Team C4ISR's BRAC relocation was expected to result in major personnel losses (projected as high as 70 percent). Together with the anticipated loss of knowledge—nontranscribed daily and historical knowledge, business processes, and business relationships, organizational culture, etc.—this personnel loss was expected to devastate the overall mission of warfighter support. As BRAC progressed and mitigating circumstances took hold, the "Team C4ISRs Plan to implement

the BRAC 2005 Law” was actively engaged, actual personnel losses ended up in the 30 percent-plus range and significantly large numbers of new hires were brought into the community over the BRAC years—all of which helped mitigate the overall loss of knowledge.

Results of this research validate the knowledge capture dilemma issue and also provide interesting insight into unintended consequences of “mass purge/new blood” on the possible benefit of absorbing a short-term continuity loss while gaining new and younger talent with fresh concepts and refreshed networking. The post-survey informal discussions with survey invitees indicate that the senior leaders have recognized that the post-BRAC health of their organizations is currently good overall and that the huge infusions of new talent and younger generations are combining with the different official culture of the greater APG to provide benefits beyond short-term nontechnical knowledge loss.

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GLOSSARY OF ACRONYMS AND TERMS

ACC	Army Contracting Command
a.k.a.	Also Known As
ALT	Acquisition Logistics and Technology
AMC	Army Materiel Command
APG	Aberdeen Proving Ground
ARIMS	Army Records Information Management System
ASA(AL&T)	Assistant Secretary of the Army for Acquisition, Logistics, and Technology
AT&L	Acquisition, Technology and Logistics
ATEC	Army Test and Evaluation Command
BG	Brigadier General
BI	Business Intelligence
BPM	Business Process Management
BRAC	Base Realignment and Closure
C3T	Command, Control, Communications Tactical
C4ISR	Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance
CECOM	Communication Electronics Command
CERDEC	Communications Electronics Research, Development and Engineering Center
CG	Commanding General
CHRA	Civilian Human Resources Agency
CMMI	Capability Maturity Model Integration
CoE	Center of Excellence
CVE	Countering Violent Extremism
DA	Department of the Army
DAC	DA Civilian
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DEP/Dep	Deputy
DHA	Department of Homeland Security
DIR/Dir	Director

DoD	Department of Defense
DOIM	Directorate of Information Management
FY	Fiscal Year
FYDP	Five Year Defense Plan
GAL	Global Address List
GO	General Officer
GS	General Schedule
GWOT	Global War on Terrorism
H	Hypothesis
HQ	Headquarters
IEW&S	Intelligence, Electronic Warfare and Sensors
IMCOM	Installation and Management Command
IPT	Integrated Product Team
LCM	Life-cycle Management
LCMC	Life Cycle Management Center
MOA	Memorandum of Agreement
MSC	Major Subordinate Command
NLT	No Later Than
NV	Night Vision
OCO	Overseas Contingency Operations
OSD	Office of the Secretary of Defense
PEG	Program Element Group
PEO	Program Executive Office/Officer
PD	Product Director
PdM	Product Manager
PM	Project Manager or Program Manager
PMO	Project Manager Office
PoC	Point of Contact
Q	Question
RIF	Reduction In Force
RSTA	Reconnaissance, Surveillance, Target Acquisition

RUS	Robotics and Unmanned Sensors
SECDEF	Secretary of Defense
SES	Senior Executive Service
SSCF	Senior Service College Fellowship
TDY	Temporary Duty
Tier-1	Upper most management level in an organization
Tier-2	Second level of management, sometimes referred to as middle management
URL	Uniform Resource Locator
VERA	Voluntary Early Retirement Authority
VSIP	Voluntary Separation Incentive Pay

APPENDIX A SURVEY INSTRUMENT

E-MAIL TO SENIOR LEADERS ANNOUNCING THE SURVEY INSTRUMENT

To: [E-mail survey address list of 16]

From: “stanley.niemiec@dau.mil via surveymonkey.com”

Subject: Senior Leader version: Senior Service College Research Paper: Knowledge Transfer During & Post BRAC

Body: Dear sir and ma’am:

Per your previous buy-in to this effort, attached is an assessment using Survey Monkey, a web-based feedback tool that gathers data for research topics. This is a shorter version of the survey sent to your Tier 1 and 2 leaders earlier today.

The survey you are being asked to complete requests you to provide both objective and subjective feedback reference the Knowledge Transfer process and results during the transition of your work element from your pre-BRAC duty station to your post-BRAC location. The quality and accuracy of the information resulting from this assessment depends solely on your candid and forthright feedback.

This is a totally nonattribution and nontraceable survey, as your responses are immediately merged into the greater database pool and your original response survey is then deleted automatically. After survey responses are submitted, Survey Monkey calculates the results and produces analysis reports. These reports will become part of my research paper entitled: Knowledge Transfer Loss in a BRAC Environment: A Positive or Negative Paradigm Shift.

The information in the reports will help Team C4ISR in particular and the Army as a whole in determining the true impact of both the transfer of knowledge from personnel who did not move with the BRAC, as well as how that knowledge is being used by seasoned new hires and by the different generations of our workforce. Knowing this information will help you and your organization identify appropriate developmental activities and plan your future training and knowledge capture requirements and processes.

A few administrative hints:

- Please keep all subjective answers anonymous by not adding your trademark touch.
- Please be candid and complete in your responses.
- Please ensure your responses refer to the workforce that you are responsible for. (e.g., A Division Chief is answering for everyone in his/her Division—not just Direct

Reports)

- Answer to the best of your recollection (e.g., The accuracy of percentages is not as important as the general item being captured).
- If you are new to the position, request assistance in completing the survey from a senior member of your group with the knowledge of what took place.
- Reference the term generational—this will be a known “best” subjective recollection on your part

Please contact me for assistance if required or if you have questions.

Here is a link to the survey:

<https://www.surveymonkey.com/s.aspx>

This link is uniquely tied to this survey and your e-mail address. Please do not forward this message.

I fully appreciate that your time is constrained given your mission but this research is important and I personally wish to thank you in advance for your participation.

Please note: If you do not wish to receive further e-mails from us, please click the link below, and you will be automatically removed from our mailing list.

<https://www.surveymonkey.com/optout.aspx>

VR/
Stan

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Stanley Michael Niemiec
Fellow
Senior Service College Fellowship (SSCF) Program

Callsign:~} Rail66
Army Aviation “Above the Best”

Cmrc1: 443.395.8297
BB: 443.591.0262
Email: stanley.m.niemiec.civ@mail.mil
stanley.niemiec@dau.mil

Army Strong

E-MAIL TO TIER 1 & 2 (MID-UPPER MANAGEMENT) LEADERS ANNOUNCING THE SURVEY INSTRUMENT

To: [E-mail survey address list of 410]

From: “stanley.niemiec@dau.mil via surveymonkey.com”

Subject: C4ISR Senior Command & Staff Research: Knowledge Transfer During & Post BRAC

Body: Dear mid-upper management leader:

With concurrence from the senior leader of your organization (commitment e-mail available upon request), you have been selected to participate in the attached assessment using Survey Monkey, a web-based feedback tool that gathers data for research topics.

The survey you are being asked to complete requests you to provide both objective and subjective feedback reference the Knowledge Transfer process and results during the transition of your work element from your pre-BRAC duty station to your post BRAC location. The quality and accuracy of the information resulting from this assessment depends solely on your honest feedback.

This is a totally nonattribution and nontraceable survey as your responses are immediately merged into the greater database pool and your original response survey is then deleted automatically. After survey responses are submitted, Survey Monkey calculates the results and produces analysis reports. These reports will become part of my research paper entitled: Knowledge Transfer Loss in a BRAC Environment: A Positive or Negative Paradigm Shift.

The information in the reports will help Team C4ISR in particular and the Army as a whole in determining the true impact of both the transfer of knowledge from personnel who did not move with the BRAC, as well as how that knowledge is being used by seasoned new hires and by the different generations of our workforce. Knowing this information will help you and your organization identify appropriate developmental activities and plan your future training and knowledge capture requirements and processes.

A few administrative hints:

- Please keep all subjective answers anonymous by not adding your trademark touch
- Please be candid and complete in your responses
- Please ensure your responses refer to the workforce that you are responsible for (e.g., A Division Chief is answering for everyone in his/her Division - not just Direct Reports)

- Answer to the best of your recollection (e.g., The accuracy of percentages is not as important as the general item being captured)
- If you are new to the position request assistance in completing the survey from a senior member of your group with the knowledge of what took place
- Reference the term generational - this will be a known “best” subjective recollection on your part

Please contact me for assistance if required or if you have questions.

Here is a link to the survey:

<https://www.surveymonkey.com/s.aspx>

This link is uniquely tied to this survey and your e-mail address. Please do not forward this message.

I fully appreciate that your time is constrained given your mission but this research is important and I personally wish to thank you in advance for your participation.

Please note: If you do not wish to receive further e-mails from us, please click the link below, and you will be automatically removed from our mailing list.

<https://www.surveymonkey.com/optout.aspx>

VR/
Stan

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Stanley Michael Niemiec
Fellow
Senior Service College Fellowship (SSCF) Program

Callsign:~} Rail66
Army Aviation “Above the Best”

Cmrc1: 443.395.8297
BB: 443.591.0262
E-mail: stanley.m.niemiec.civ@mail.mil
stanley.niemiec@dau.mil

Army Strong

SURVEY INSTRUMENT: SURVEY MONKEY HOME PAGE*

**Source: SurveyMonkeyTM Brand Perception Survey, October 2009.*

“We’re the world’s leading provider of web-based survey solutions, trusted by millions of companies, organizations and individuals alike to gather the insights they need to make more informed decisions. But you know all that. Here’s a bit more about the Monkey:

“Who we are

“We’re a smart, passionate group of people who work really hard so you don’t have to. We strive to make our tools powerful enough for professional researchers, yet easy enough for a survey novice. And we pack our solutions with over 10 years of experience in survey methodology and web technology so you can be confident in the quality of the data.

“Our Mission

“We want to help you make better decisions. That’s it. That’s all. That’s what drives us. We want to make it as easy as possible for you to get at the knowledge you need to make smart, informed choices. And after 10 years, we’re still challenging ourselves to deliver simple, powerful solutions. We’re dedicated to making even the most advanced research design easy enough for anyone—and everyone—to use.

“What we care about most

“1. Our customers—We offer round the clock support and spend every waking hour striving to make their experience better. And they seem to appreciate it, as our satisfaction rating is 99.5%.

“2. Knowledge for everyone—We believe everyone deserves easy access to the information they need to make better decisions. Budgets, timelines and logistics should not get in the way. That’s why we created the simple, cost-effective, self-serve solution you know as SurveyMonkeyTM.

“3. Privacy and security—We use SSL encryption and multi-machine backup to keep your data secure.

“Who uses SurveyMonkeyTM?

“Chances are you know someone who is hooked on the monkey. Our customers include 100% of the Fortune 100, as well as other businesses, academic institutions, and organizations of all shapes and sizes. Literally millions of people use SurveyMonkeyTM for everything from

customer satisfaction and employee performance reviews, to course evaluations and research of all types.”

APPENDIX B INTERVIEW INSTRUMENT

Survey 1: Senior (Top Management) Leaders

Knowledge Transfer - Senior Leaders



1. As an adult 18 years of age or older, I agree to participate in this research about Knowledge Transfer during and after BRAC. The research is being conducted by Stanley M. Niemiec, a Fellow in the Defense Acquisition University (DAU) Senior Service College Fellowship (SSCF) Program, stanley.niemiec@dau.mil. I understand that my participation is entirely voluntary. I can withdraw my consent at any time. By agreeing to participate in this study, I indicate that I understand the following: 1.1: The purpose of this research is to have employees at C4ISR rate the process and end value associated with different knowledge transfer methods employed before, during, and after the 2005-2011 BRAC: 1.2: Should I choose to participate in the study, my organization may benefit professionally because the outcome will be presented to C4ISR leadership who will better understand which processes are most valued and best support our warfighter customer. 1.3: If I choose to participate, I will be asked to complete an online questionnaire. The questionnaire will include items relating to demographics, knowledge transfer employed and generational factors. The questionnaire will take approximately 15 to 20 minutes to complete. 1.4: There will be no incentive for participation. 1.5: All items in the questionnaire are important for analysis, and my data will be more meaningful if all questions are answered. I can discontinue my participation at any time without penalty by exiting out of the survey. 1.6: This research will not expose me to any discomfort or stress beyond that which might normally occur during a typical day. There are no right or wrong answers; thus, I need not be stressed about finding a correct answer. 1.7: There are no known risks associated with my participation in this study. 1.8: Data collected will be handled in a confidential manner. The data collected will remain anonymous. The purpose of this research has been explained and my participation is entirely voluntary. I understand that the research entails no known risks and by completing this survey, I am agreeing to participate in this research project. YOU MAY PRINT THIS PAGE FOR YOUR RECORDS. Research at DAU that involves human participants is carried out under the oversight of an Institutional Review Board.

		Response Percent	Response Count
I have read this informed consent and I AGREE to participate		90.9%	10
I have read this informed consent and I DO NOT AGREE to participate		9.1%	1
answered question			11

skipped question 0

2. Demographic Q1: What are your current duty organizations? Answer will be used for demographic classification purposes only.

Parent Organization

	ACC-APG	CECOM	CERDEC	PEO C3T	PEO IEW&S	Other	Response Count
What is Your:	22.2% (2)	33.3% (3)	0.0% (0)	22.2% (2)	22.2% (2)	0.0% (0)	9

Major Subordinate Organization

	HQ/Front Office	PMO	Directorate	Division	Other (e.g.: Independent direct report PD, etc)	Response Count
What is Your:	77.8% (7)	0.0% (0)	11.1% (1)	0.0% (0)	11.1% (1)	9

answered question 9

skipped question 2

3. Demographic Q2: What was/is your duty office/position (or equivalent)? Answer will be used for demographic classification purposes only.

Pre-BRAC

	Commander	PEO	Director/PM/separate reporting PD	PdM/PD/PL	Deputy Commander/Director/PEO/PM/PL	Chief of Staff	Division Chief	Branch Chief	Chief BMD	Chief RM
Position	0.0% (0)	0.0% (0)	33.3% (3)	0.0% (0)	55.6% (5)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

Post-BRAC

	Commander	PEO	Director/PM/separate reporting PD	PdM/PD/PL	Deputy Commander/Director/PEO/PM/PL	Chief of Staff	Division Chief	Branch Chief	Chief BMD	Chief RM
Position	0.0% (0)	11.1% (1)	22.2% (2)	0.0% (0)	55.6% (5)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

4. Demographic Q3: What is your Employment Type and Pay Grade? Answer will be used for demographic classification purposes only.

Military

	O-10	O-9	O-8	O-7	O-6	O-5	O-4	O-3	O-2	O-1	WO-5	WO-4	WO-3	WO-2
Pay Grade	0.0% (0)	0.0% (0)	0.0% (0)	100.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

DAC

	SES	GS-15/eq	GS-14/eq	GS-13/eq	GS-12/eq	GS-11/eq	GS-10/eq	GS-09/eq	GS-08/eq	GS-07/eq
Pay Grade	62.5% (5)	37.5% (3)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

Other DoD Component or US Government Agency Civilian

	GS-15/eq	GS-14/eq	GS-13/eq	GS-12/eq	GS-11/eq	GS-10/eq	GS-09/eq	GS-08/eq	GS-07/eq
Pay Grade	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

5. Demographic Q4: How long have you been with your organization and in your duty position? Answer will be used for demographic classification purposes only.

With your parent organization or one of its subordinate organizations?

	16 or more years	10-15 years	8-9 years	6-7 years	4-5 years	3-4 years	2-3 years	1-2 years	Less than 1 year	Response Count
How Long have you been:	22.2% (2)	22.2% (2)	11.1% (1)	0.0% (0)	11.1% (1)	22.2% (2)	0.0% (0)	0.0% (0)	11.1% (1)	9

In your current duty position?

	16 or more years	10-15 years	8-9 years	6-7 years	4-5 years	3-4 years	2-3 years	1-2 years	Less than 1 year	Response Count
How Long have you been:	0.0% (0)	0.0% (0)	11.1% (1)	11.1% (1)	0.0% (0)	22.2% (2)	11.1% (1)	0.0% (0)	44.4% (4)	9
	answered question									9
	skipped question									2

6. Demographic Q5: Who are you? Answer will be used for demographic classification purposes only.

Personal Age Group / Generation

	18-20 (iGeneration)	21-29 (Millennial)	30 - 46 (Gen-X)	47 - 65 (Baby Boomer)	66+ (Traditionalist)	Response Count
What is your:	0.0% (0)	0.0% (0)	0.0% (0)	88.9% (8)	11.1% (1)	9

Highest educational Level

	High school	Some college	Undergraduate degree	Master's	College credit beyond Master's	Doctorate	Response Count
What is your:	0.0% (0)	0.0% (0)	0.0% (0)	44.4% (4)	33.3% (3)	22.2% (2)	9

Gender

	Male	Female	Response Count
What is your:	100.0% (9)	0.0% (0)	9
			answered question 9
			skipped question 2

7. Was Knowledge Transfer a concern for you as a supervisor and/or as an acquisition leader during each of the following periods? (One answer required for each row)

	Yes	No	Response Count
2005-2006: BRAC initiation	75.0% (6)	25.0% (2)	8
2007-2010: BRAC ADVON (early mover) implementation	75.0% (6)	25.0% (2)	8
2011: BRAC terminal year	75.0% (6)	25.0% (2)	8
			answered question 8
			skipped question 3

8. As BRAC progressed from 2005 through 2011, what was your single worst case planning estimate of incumbent workforce losses?

	Response Percent	Response Count
0%	0.0%	0
1-10%	0.0%	0
11-20%	0.0%	0
21-30%	0.0%	0
31-40%	25.0%	2
41-50%	25.0%	2
51-60%	0.0%	0
61-70%	25.0%	2
71-80%	12.5%	1
81-90%	0.0%	0
91-99%	12.5%	1
100% turnover	0.0%	0
	answered question	8
	skipped question	3

9. Reference Q8 above: As BRAC progressed and finally closed in September 2011 many "realities" affected the incumbent workforce plans to relocate or not. As a result, what was your actual incumbent workforce loss on BRAC-end date (15 September 2011)?

	Response Percent	Response Count
0%	0.0%	0
1-10%	0.0%	0
11-20%	0.0%	0
21-30%	37.5%	3
31-40%	50.0%	4
41-50%	0.0%	0
51-60%	0.0%	0
61-70%	0.0%	0
71-80%	0.0%	0
81-90%	12.5%	1
91-99%	0.0%	0
100% turnover	0.0%	0
	answered question	8
	skipped question	3

10. Is Knowledge Transfer still an issue / concern of yours?

	Yes	No	Response Count
Given the actual loss rate of Q8 vs Q8 above	50.0% (4)	50.0% (4)	8
Given the caliber of hired replacement personnel	50.0% (4)	50.0% (4)	8
Given recent hiring freeze and efficiency initiatives	87.5% (7)	12.5% (1)	8
			answered question
			8
			skipped question
			3

11. How did or are you transferring knowledge to new personnel (choose all applicable)?

	Military	DAC - Core	DAC - Matrix	SETA Contractor	Response Count
Incumbent knowledge transfer	37.5% (3)	100.0% (8)	50.0% (4)	62.5% (5)	8
Other team members Mentor	50.0% (4)	100.0% (8)	37.5% (3)	50.0% (4)	8
Other organization (Matrix/SETA Contractor) team assist	42.9% (3)	57.1% (4)	57.1% (4)	71.4% (5)	7
Rely on their own personal experience(s)	28.6% (2)	100.0% (7)	42.9% (3)	42.9% (3)	7
Internet training	28.6% (2)	100.0% (7)	28.6% (2)	28.6% (2)	7
Wiki and/or Wiki-like repository with blogs for Q&A	20.0% (1)	80.0% (4)	40.0% (2)	40.0% (2)	5
On-site group training	42.9% (3)	71.4% (5)	71.4% (5)	57.1% (4)	7
On the fly (situation and time dependent)	57.1% (4)	85.7% (6)	57.1% (4)	71.4% (5)	7
Fingers crossed - they are on their own	50.0% (1)	50.0% (1)	0.0% (0)	50.0% (1)	2
Not Applicable	100.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	1
				Other (please specify)	0
				answered question	8
				skipped question	3

12. Was the five+ year BRAC period (from announcement to final organizational move) optimal in minimizing the impact on knowledge transfer by allowing sufficient time to train new hires at their original location and / or at their new location?

Yes

	Optimal time for planning and training	Provided orderly transfer of knowledge	Response Count
Enough Time?	16.7% (1)	83.3% (5)	6

No: Need More Time

	No - Need More Time: 1-3 months	No - Need More Time: 4-6 months	7-9 months	10-12 months	13-24 months	Is not quantifiable	Response Count
Enough Time?	0.0% (0)	100.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	1

No: Need Less Time

	Reduce to 4 years	Reduce to 3 years	Reduce to 2 years	Response Count
Enough Time?	100.0% (1)	0.0% (0)	0.0% (0)	1

Should Not Have Moved

	Too much turmoil	Knowledge loss is irretrievable	Loss of productivity will take years to recover	Not the right thing to have been done	Response Count
Enough Time?	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0

answered question 8

skipped question 3

13. Which areas of knowledge were most impacted by your relocation?

No Loss

	Personnel all moved	Mission changed: Negated personnel loss	Position was closed after incumbent departed	New employee was already knowledge aware	Response Count
Organizational culture	0.0% (0)	0.0% (0)	0.0% (0)	100.0% (2)	2
Organizational processes	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0
Organizational procedures	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0
Technical knowledge	100.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	1
Personal networking disruptions	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0

Loss

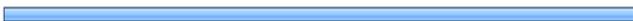
	Critical impact: It will take a year or more to recover	Major impact: It will take up to a year to recover	Significant impact: It will take months to recover	Minimal impact: We have it recovered already	Minimal impact: Mission down-scoped	No impact	Response Count
Organizational culture	16.7% (1)	33.3% (2)	33.3% (2)	0.0% (0)	16.7% (1)	0.0% (0)	6
Organizational processes	37.5% (3)	0.0% (0)	12.5% (1)	37.5% (3)	12.5% (1)	0.0% (0)	8
Organizational procedures	25.0% (2)	25.0% (2)	0.0% (0)	50.0% (4)	0.0% (0)	0.0% (0)	8
Technical knowledge	28.6% (2)	42.9% (3)	0.0% (0)	28.6% (2)	0.0% (0)	0.0% (0)	7
Personal networking disruptions	25.0% (2)	12.5% (1)	37.5% (3)	25.0% (2)	0.0% (0)	0.0% (0)	8
						Other (please specify)	0
						answered question	8

skipped question 3

14. Subjectively, based on knowledge transfer is there a perceptible increase or decrease in customer service by your workforce since it relocated to your new duty location?

	Significant (51-100%)	Some (11-50%)	Intermittent (1-10%)	None due to knowledge loss (0%)	Response Count	
Increase	0.0% (0)	50.0% (2)	0.0% (0)	50.0% (2)	4	
Decrease	16.7% (1)	50.0% (3)	33.3% (2)	0.0% (0)	6	
					Other (please specify)	0
					answered question	8
					skipped question	3

15. Has the loss of workplace incumbents and their historical knowledge & experience in your organization actually been beneficial by bringing in new blood / talent?

	Response Percent	Response Count
Yes 	75.0%	6
No 	12.5%	1
Still Being Determined 	12.5%	1
	answered question	8
	skipped question	3

Survey 2: Tier 1 & 2 (Mid-Upper management) Leaders

Knowledge Transfer - Tier I & II Leaders



1. As an adult 18 years of age or older, I agree to participate in this research about Knowledge Transfer during and after BRAC. The research is being conducted by Stanley M. Niemiec, a Fellow in the Defense Acquisition University (DAU) Senior Service College Fellowship (SSCF) Program, stanley.niemiec@dau.mil. I understand that my participation is entirely voluntary. I can withdraw my consent at any time. By agreeing to participate in this study, I indicate that I understand the following: 1.1: The purpose of this research is to have employees at C4ISR rate the process and end value associated with different knowledge transfer methods employed before, during, and after the 2005-2011 BRAC: 1.2: Should I choose to participate in the study, my organization may benefit professionally because the outcome will be presented to C4ISR leadership who will better understand which processes are most valued and best support our warfighter customer. 1.3: If I choose to participate, I will be asked to complete an online questionnaire. The questionnaire will include items relating to demographics, knowledge transfer employed and generational factors. The questionnaire will take approximately 15 to 20 minutes to complete. 1.4: There will be no incentive for participation. 1.5: All items in the questionnaire are important for analysis, and my data will be more meaningful if all questions are answered. I can discontinue my participation at any time without penalty by exiting out of the survey. 1.6: This research will not expose me to any discomfort or stress beyond that which might normally occur during a typical day. There are no right or wrong answers; thus, I need not be stressed about finding a correct answer. 1.7: There are no known risks associated with my participation in this study. 1.8: Data collected will be handled in a confidential manner. The data collected will remain anonymous. The purpose of this research has been explained and my participation is entirely voluntary. I understand that the research entails no known risks and by completing this survey, I am agreeing to participate in this research project. **YOU MAY PRINT THIS PAGE FOR YOUR RECORDS.** Research at DAU that involves human participants is carried out under the oversight of an Institutional Review Board.

		Response Percent	Response Count
I have read this informed consent and I AGREE to participate		87.9%	239
I have read this informed consent and I DO NOT AGREE to participate		12.1%	33
answered question			272

skipped question

0

2. Demographic Q1: What are your current duty organizations? Answer will be used for demographic purposes only.

Parent Organization

	ACC-APG	CECOM	CERDEC	PEO C3T	PEO IEW&S
What is Your:	4.2% (10)	50.4% (119)	11.4% (27)	23.3% (55)	10.2% (24)

Major Subordinate Organization

	HQ/Front Office	PMO	Directorate	Division
What is Your:	16.1% (38)	21.2% (50)	35.6% (84)	15.3% (36)

3. Demographic Q2: What was/is your duty office/position (or equivalent)? Answer will be used for demographic purposes only.

Pre-BRAC

	Commander	PEO	Director/PM/separate reporting PD	PdM/PD/PL	Director/PM/Commander/Di
Position	0.4% (1)	0.4% (1)	10.2% (24)	10.2% (24)	9.7%

Post-BRAC

	Commander	PEO	Director/PM/separate reporting PD	PdM/PD/PL	Director/PM/Commander/Di
Position	0.4% (1)	0.8% (2)	10.6% (25)	12.7% (30)	11.9%

4. Demographic Q3: What is your Employment Type and Pay Grade? Answer will be used for de

Military

	O-10	O-9	O-8	O-7	O-6	O-5	O-4
Pay Grade	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	32.4% (11)	55.9% (19)	8.8%

DAC

	SES	GS-15/equivilant	GS-14/equivilant	GS-13/equivilant	GS-12/equivi
Pay Grade	0.0% (0)	55.6% (94)	34.9% (59)	7.7% (13)	1.2% (2)

Other DoD Component or US Government Agency Civilian

	GS-15/equivilant	GS-14/equivilant	GS-13/equivilant	GS-12/equivilant	GS-11/equivilant
Pay Grade	34.3% (12)	42.9% (15)	14.3% (5)	2.9% (1)	2.9% (1)

5. Demographic Q4: How long have you been with your organization and in your duty position? classification purposes only.

With your parent organization or one of its subordinate organizations?

	16 or more years	10-15 years	8-9 years	6-7 years	4-5 years	3-4 years	2-3 years
How Long have you been:	32.2% (76)	15.7% (37)	4.2% (10)	8.9% (21)	6.4% (15)	5.9% (14)	28.5% (69)

In your current duty position?

	16 or more years	10-15 years	8-9 years	6-7 years	4-5 years	3-4 years	2-3 years
How Long have you been:	0.4% (1)	5.5% (13)	3.4% (8)	7.2% (17)	8.5% (20)	7.2% (17)	20.4% (49)

6. Demographic Q5: Who are you? Answer will be used for demographic classification purposes

Personal Age Group / Generation

	18-20 (iGeneration)	21-29 (Millennial)	30 - 46 (Gen-X)	47 - 65 (Baby Boomer)
What is your:	0.0% (0)	1.7% (4)	30.1% (71)	67.4% (151)

Highest educational Level

	High school	Some college	Undergraduate degree	Master's	College graduate
What is your:	1.3% (3)	7.6% (18)	29.2% (69)	47.5% (112)	14.4% (33)

Gender

	Male	Female
What is your:	72.9% (172)	27.1% (63)

7. Was Knowledge Transfer a concern for you as a supervisor and/or as an acquisition leader during each of the following periods? (One answer required for each row)

	Yes	No	Response Count
2005-2006: BRAC initiation	55.3% (126)	44.7% (102)	228
2007-2010: BRAC ADVON (early mover) implementation	74.6% (170)	25.4% (58)	228
2011: BRAC terminal year	75.9% (173)	24.6% (56)	228
		answered question	228
		skipped question	44

8. As BRAC progressed from 2005 through 2011, what was your single worst case planning estimate of incumbent workforce losses?

		Response Percent	Response Count
0%		6.1%	14
1-10%		3.9%	9
11-20%		7.5%	17
21-30%		14.0%	32
31-40%		15.8%	36
41-50%		16.2%	37
51-60%		18.9%	43
61-70%		11.0%	25
71-80%		5.3%	12
81-90%		0.9%	2
91-99%		0.4%	1
100% turnover		0.0%	0
		answered question	228
		skipped question	44

9. Reference Q8 above: As BRAC progressed and finally closed in September 2011 many "realities" affected the incumbent workforce plans to relocate or not. As a result, what was your actual incumbent workforce loss on BRAC-end date (15 September 2011)?

		Response Percent	Response Count
0%		5.7%	13
1-10%		11.8%	27
11-20%		19.7%	45
21-30%		24.1%	55
31-40%		14.5%	33
41-50%		7.5%	17
51-60%		7.5%	17
61-70%		3.1%	7
71-80%		3.9%	9
81-90%		1.8%	4
91-99%		0.4%	1
100% turnover		0.0%	0
		answered question	228
		skipped question	44

10. Is Knowledge Transfer still an issue / concern of yours?

	Yes	No	Response Count
Given the actual loss rate of Q9 vs Q8 above	50.9% (116)	49.1% (112)	228
Given the caliber of hired replacement personnel	48.7% (111)	51.3% (117)	228
Given recent hiring freeze and efficiency initiatives	73.2% (167)	26.8% (61)	228
		answered question	228
		skipped question	44

11. Which Employment Type constitutes 'all' personnel in the workplace under your control? (mark all applicable) (EG: Ch, BMD response is for all personnel in the Division. This is not a direct report question)

		Response Percent	Response Count
Military		23.4%	41
DAC - Core		93.7%	164
DAC - Matrix		45.7%	80
SETA Contractor		46.9%	82
		answered question	175
		skipped question	97

12. Reference question 11 above: Which Employment Type(s) is/are critical center of mass (loss DID or WILL equate to mission impact/failure) (mark all applicable)? (EG: Ch, BMD response is for all personnel in the Division. This is not a direct report question)

		Response Percent	Response Count
Military		10.0%	17
DAC - Core		92.9%	158
DAC - Matrix		27.1%	46
SETA Contractor		30.6%	52
answered question			170
skipped question			102

13. Was your workplace relocated due to BRAC?

FROM

	Fort Monmouth	Fort Belvoir	Redstone Arsenal	Other
Location (if NO - select Not applicable in both drop down menus)	86.2% (150)	1.1% (2)	0.0% (0)	1.7% (3)

TO

	APG	Fort Dix	West Point	Picatinny Arsenal	Tobyhanna Army Depot	Other
Location (if NO - select Not applicable in both drop down menus)	90.1% (154)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%

14. What was your organization's population (Government and SETA) during the BRAC? NOTE:

Military

	0	1	2	3	4	5	6
Organization population pre-BRAC	45.3% (34)	9.3% (7)	14.7% (11)	6.7% (5)	4.0% (3)	5.3% (4)	1.3% (1)
Total personnel relocated	58.1% (43)	12.2% (9)	12.2% (9)	1.4% (1)	2.7% (2)	5.4% (4)	0.0% (0)
Total vacant positions moved	80.0% (52)	9.2% (6)	3.1% (2)	1.5% (1)	0.0% (0)	1.5% (1)	3.1% (2)

DAC - Core

	0	1	2	3	4	5	6
Organization population pre-BRAC	0.7% (1)	0.7% (1)	1.3% (2)	4.0% (6)	3.4% (5)	6.0% (9)	5.4% (8)
Total personnel relocated	6.4% (9)	2.9% (4)	6.4% (9)	5.0% (7)	9.3% (13)	6.4% (9)	3.6% (5)
Total vacant positions moved	24.0% (30)	8.8% (11)	7.2% (9)	10.4% (13)	7.2% (9)	7.2% (9)	5.6% (7)

DAC - Matrix

	0	1	2	3	4	5	6
Organization population pre-BRAC	28.0% (26)	8.6% (8)	4.3% (4)	7.5% (7)	2.2% (2)	4.3% (4)	4.3% (4)
Total personnel relocated	34.1% (29)	10.6% (9)	3.5% (3)	4.7% (4)	1.2% (1)	4.7% (4)	4.7% (4)
Total vacant positions moved	62.9% (44)	5.7% (4)	1.4% (1)	2.9% (2)	1.4% (1)	11.4% (8)	0.0% (0)

SETA (Contractor)

	0	1	2	3	4	5	6
Organization population pre-BRAC	16.0% (16)	4.0% (4)	6.0% (6)	7.0% (7)	7.0% (7)	8.0% (8)	3.0 (3)
Total personnel relocated	27.2% (25)	9.8% (9)	7.6% (7)	7.6% (7)	1.1% (1)	7.6% (7)	2.2 (2)
Total vacant positions moved	52.1% (38)	4.1% (3)	9.6% (7)	6.8% (5)	4.1% (3)	5.5% (4)	1.4 (1)

15. Reference question 14 above: If less than 100% of Government and SETA incumbents relocated, how were the losses backfilled (choose all applicable)? (EG: Ch, BMD response is for all personnel in the Division. This is not a direct report question)

	Military	DAC - Core	DAC - Matrix	SETA Contractor	Response Count
Downsized/Eliminated Position(s)	11.0% (9)	68.3% (56)	20.7% (17)	37.8% (31)	82
Management Reassignment(s)	5.1% (4)	88.5% (69)	29.5% (23)	7.7% (6)	78
Internal Competitive Fill	0.0% (0)	86.6% (71)	28.0% (23)	8.5% (7)	82
External Competitive Fill	3.4% (3)	80.7% (71)	21.6% (19)	26.1% (23)	88
Intern(s)	0.0% (0)	78.7% (48)	31.1% (19)	6.6% (4)	61
Still Open	2.8% (2)	77.5% (55)	29.6% (21)	23.9% (17)	71
Not Applicable	69.7% (23)	33.3% (11)	48.5% (16)	54.5% (18)	33
			Other (please specify)		13
			answered question		161
			skipped question		111

16. Subjectively: What "PRE"-BRAC generational percent were each of your workplace employ personnel in the Division. This is not a direct report question) Traditionalist:.....born 1920 through 1945 Gen-X:.....born 1965 through 1980 Millennial:.....born 1981 through 1990 iGeneration.

Military: Pre-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	77.4% (24)	12.9% (4)	0.0% (0)	3.2% (1)	0.0% (0)	0.0% (0)	0.0% (0)
Baby Boomer	44.4% (16)	25.0% (9)	5.6% (2)	0.0% (0)	5.6% (2)	8.3% (3)	2.8% (1)
Gen-X	27.7% (13)	14.9% (7)	4.3% (2)	2.1% (1)	4.3% (2)	10.6% (5)	2.1% (1)
Millennial	60.7% (17)	10.7% (3)	3.6% (1)	7.1% (2)	0.0% (0)	3.6% (1)	7.1% (2)
iGeneration	85.7% (18)	9.5% (2)	4.8% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Do not know	86.7% (13)	0.0% (0)	6.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	76.2% (16)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

DAC - Core: Pre-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	20.6% (13)	47.6% (30)	11.1% (7)	3.2% (2)	9.5% (6)	1.6% (1)	1.6% (1)
Baby Boomer	1.5% (2)	6.9% (9)	12.2% (16)	7.6% (10)	10.7% (14)	9.9% (13)	15.3% (20)
Gen-X	0.9% (1)	14.0% (15)	21.5% (23)	23.4% (25)	12.1% (13)	11.2% (12)	6.5% (7)
Millennial	8.1% (6)	37.8% (28)	27.0% (20)	6.8% (5)	6.8% (5)	5.4% (4)	2.7% (2)
iGeneration	41.7% (15)	47.2% (17)	5.6% (2)	2.8% (1)	2.8% (1)	0.0% (0)	0.0% (0)

Do not know	60.0% (12)	15.0% (3)	10.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	92.3% (12)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

DAC - Matrix: Pre-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	60.0% (15)	20.0% (5)	8.0% (2)	4.0% (1)	4.0% (1)	4.0% (1)	0.0% (0)
Baby Boomer	9.8% (6)	9.8% (6)	6.6% (4)	9.8% (6)	14.8% (9)	14.8% (9)	6.6% (4)
Gen-X	13.7% (7)	7.8% (4)	15.7% (8)	21.6% (11)	9.8% (5)	11.8% (6)	7.8% (4)
Millennial	25.7% (9)	34.3% (12)	17.1% (6)	11.4% (4)	0.0% (0)	0.0% (0)	0.0% (0)
iGeneration	59.1% (13)	27.3% (6)	13.6% (3)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Do not know	62.5% (10)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	73.3% (11)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

SETA Contractor: Pre-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	39.4% (13)	39.4% (13)	6.1% (2)	3.0% (1)	0.0% (0)	9.1% (3)	0.0% (0)
Baby Boomer	6.0% (4)	11.9% (8)	7.5% (5)	10.4% (7)	13.4% (9)	13.4% (9)	9.0% (6)
Gen-X	8.9% (5)	12.5% (7)	12.5% (7)	21.4% (12)	8.9% (5)	21.4% (12)	7.1% (4)
Millennial	14.7% (5)	50.0% (17)	14.7% (5)	8.8% (3)	0.0% (0)	5.9% (2)	5.9% (2)
iGeneration	61.1% (11)	33.3% (6)	0.0% (0)	0.0% (0)	5.6% (1)	0.0% (0)	0.0% (0)

Do not know	56.3% (9)	6.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	71.4% (10)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

17. Subjectively: What "POST"-BRAC generational percent are each of your workplace employ personnel in the Division. This is not a direct report question) Traditionalist:.....born 1920 thru Gen-X:.....born 1965 through 1980 Millennial:.....born 1981 through 1990 iGeneration.

Military: Post-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	65.0% (13)	20.0% (4)	0.0% (0)	5.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)
Baby Boomer	39.1% (9)	17.4% (4)	8.7% (2)	13.0% (3)	4.3% (1)	8.7% (2)	4.3% (1)
Gen-X	13.9% (5)	16.7% (6)	2.8% (1)	13.9% (5)	2.8% (1)	13.9% (5)	2.8% (1)
Millennial	40.9% (9)	13.6% (3)	4.5% (1)	9.1% (2)	0.0% (0)	9.1% (2)	9.1% (2)
iGeneration	78.6% (11)	21.4% (3)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Do not know	66.7% (8)	0.0% (0)	8.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	64.7% (11)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

DAC - Core: Post-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	33.3% (16)	52.1% (25)	4.2% (2)	10.4% (5)	0.0% (0)	0.0% (0)	0.0% (0)
Baby Boomer	0.0% (0)	14.4% (18)	12.8% (16)	18.4% (23)	10.4% (13)	12.8% (16)	6.4% (8)

Gen-X	0.0% (0)	6.9% (8)	16.4% (19)	25.9% (30)	14.7% (17)	14.7% (17)	9.5% (11)
Millennial	3.5% (3)	21.2% (18)	27.1% (23)	11.8% (10)	21.2% (18)	3.5% (3)	2.4% (2)
iGeneration	32.5% (13)	52.5% (21)	7.5% (3)	5.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)
Do not know	58.8% (10)	11.8% (2)	5.9% (1)	5.9% (1)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	91.7% (11)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

DAC - Matrix: Post-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	62.5% (15)	25.0% (6)	4.2% (1)	8.3% (2)	0.0% (0)	0.0% (0)	0.0% (0)
Baby Boomer	9.1% (5)	14.5% (8)	9.1% (5)	14.5% (8)	16.4% (9)	14.5% (8)	1.8% (1)
Gen-X	16.3% (8)	2.0% (1)	20.4% (10)	12.2% (6)	16.3% (8)	14.3% (7)	8.2% (4)
Millennial	22.9% (8)	20.0% (7)	20.0% (7)	11.4% (4)	2.9% (1)	5.7% (2)	0.0% (0)
iGeneration	59.1% (13)	27.3% (6)	9.1% (2)	4.5% (1)	0.0% (0)	0.0% (0)	0.0% (0)
Do not know	57.1% (8)	7.1% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	71.4% (10)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

SETA Contractor: Post-BRAC duty location

	0%	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%
Traditionalist	46.2% (12)	38.5% (10)	0.0% (0)	0.0% (0)	3.8% (1)	11.5% (3)	0.0% (0)
Baby Boomer	6.7% (4)	10.0% (6)	8.3% (5)	15.0% (9)	16.7% (10)	16.7% (10)	5.0% (3)

Gen-X	5.4% (3)	14.3% (8)	8.9% (5)	21.4% (12)	8.9% (5)	23.2% (13)	5.4% (3)
Millennial	8.8% (3)	29.4% (10)	20.6% (7)	20.6% (7)	8.8% (3)	5.9% (2)	5.9% (2)
iGeneration	55.0% (11)	35.0% (7)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	5.0% (1)
Do not know	61.5% (8)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N/A	69.2% (9)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

18. Reference questions 16 & 17 above: Was generational makeup a deciding factor in how you transferred knowledge from departing employees to new-hires?

	Military	DAC - Core	DAC - Matrix	SETA Contractor	Response Count
Yes	7.7% (3)	87.2% (34)	33.3% (13)	35.9% (14)	39
No	27.9% (34)	87.7% (107)	43.4% (53)	46.7% (57)	122
Not Applicable	55.1% (27)	42.9% (21)	44.9% (22)	53.1% (26)	49
				answered question	167
				skipped question	105

19. How did or are you transferring knowledge to new personnel (choose all applicable)?

	Military	DAC - Core	DAC - Matrix	SETA Contractor	Response Count
Incumbent knowledge transfer	17.2% (25)	91.7% (133)	34.5% (50)	29.7% (43)	145
Other team members Mentor	13.8% (21)	92.8% (141)	32.9% (50)	33.6% (51)	152
Other organization (Matrix/SETA Contractor) team assist	13.8% (8)	70.7% (41)	51.7% (30)	46.6% (27)	58
Rely on their own personal experience(s)	22.6% (19)	85.7% (72)	36.9% (31)	45.2% (38)	84
Internet training	14.9% (11)	93.2% (69)	36.5% (27)	28.4% (21)	74
Wiki and/or Wiki-like repository with blogs for Q&A	15.2% (5)	87.9% (29)	27.3% (9)	39.4% (13)	33
On-site group training	13.3% (12)	88.9% (80)	33.3% (30)	30.0% (27)	90
On the fly (situation and time dependent)	13.3% (11)	94.0% (78)	27.7% (23)	32.5% (27)	83
Fingers crossed - they are on their own	0.0% (0)	93.3% (14)	20.0% (3)	40.0% (6)	15
Not Applicable	69.0% (20)	37.9% (11)	51.7% (15)	41.4% (12)	29
			Other (please specify)		16
			answered question		167
			skipped question		105

20. Was the five+ year BRAC period (from announcement to final organizational move) optimal in minimizing the impact on knowledge transfer by allowing sufficient time to train new hires at their original location and / or at their new location?

Yes

	Optimal time for planning and training	Provided orderly transfer of knowledge	Response Count
Enough Time?	53.6% (52)	46.4% (45)	97

No: Need More Time

	No - Need More Time: 1-3 months	No - Need More Time: 4-6 months	7-9 months	10-12 months	13-24 months	Is not quantifiable	Response Count
Enough Time?	10.8% (4)	13.5% (5)	0.0% (0)	5.4% (2)	16.2% (6)	54.1% (20)	37

No: Need Less Time

	Reduce to 4 years	Reduce to 3 years	Reduce to 2 years	Response Count
Enough Time?	0.0% (0)	75.0% (12)	25.0% (4)	16

Should Not Have Moved

	Too much turmoil	Knowledge loss is irretrievable	Loss of productivity will take years to recover	Not the right thing to have been done	Response Count
Enough Time?	10.3% (4)	12.8% (5)	48.7% (19)	28.2% (11)	39
answered question					16
skipped question					11

21. Which areas of knowledge were most impacted by your relocation?

No Loss

	Personnel all moved	Mission changed: Negated personnel loss	Position was closed after incumbent departed	New e already
Organizational culture	31.7% (13)	17.1% (7)	9.8% (4)	4
Organizational processes	30.0% (9)	30.0% (9)	10.0% (3)	3
Organizational procedures	35.7% (10)	21.4% (6)	7.1% (2)	3
Technical knowledge	21.9% (7)	18.8% (6)	3.1% (1)	5
Personal networking disruptions	25.9% (7)	22.2% (6)	7.4% (2)	4

Loss

	Critical impact: It will take a year or more to recover	Major impact: It will take up to a year to recover	Significant impact: It will take months to recover	Minimal impact: We have it recovered already	Minimal impact: Mission down-scoped
Organizational culture	20.7% (24)	10.3% (12)	20.7% (24)	33.6% (39)	2.6% (3)
Organizational processes	16.4% (21)	15.6% (20)	29.7% (38)	26.6% (34)	5.5% (7)
Organizational procedures	14.0% (18)	15.5% (20)	31.0% (40)	27.1% (35)	4.7% (6)
Technical knowledge	32.8% (44)	20.9% (28)	17.2% (23)	22.4% (30)	0.7% (1)
Personal networking disruptions	24.8% (32)	17.1% (22)	21.7% (28)	24.8% (32)	3.9% (5)

Other

ans
sl

22. Subjectively, based on knowledge transfer is there a perceptible increase or decrease in customer service by your workforce since it relocated to your new duty location?

	Significant (51-100%)	Some (11-50%)	Intermittent (1-10%)	None due to knowledge loss (0%)	Response Count
Increase	13.2% (9)	29.4% (20)	22.1% (15)	35.3% (24)	68
Decrease	9.8% (11)	39.3% (44)	33.9% (38)	17.0% (19)	112
Other (please specify)					12
answered question					160
skipped question					112

23. Has the loss of workplace incumbents and their historical knowledge & experience in your organization actually been beneficial by bringing in new blood / talent?

		Response Percent	Response Count
Yes		37.1%	66
No		21.3%	38
Still Being Determined		41.6%	74
answered question			178
skipped question			94

APPENDIX C PARTICIPATING ORGANIZATIONS

Sponsorship and Buy-In:

Sponsorship: In November 2011, then BG (P) Lee Price (PEO C3T) volunteered to be the sponsor for this research paper and to provide Strategic Communications Team support in reviewing the document and in staffing it through the other target organizations PAOs and Strategic Communications teams.

Buy-In:

- ACC— APG: SES Mr. Bryon Young agreed to his organization’s participation
E-mail: Subject: RE: Request for Senior Support (UNCLASSIFIED), Mon 10/24/2011 12:47 PM, Ault, Deborah L USA CIV (US)
- CECOM: SES Mr. Gary Martin has agreed to his organization’s participation
E-mail: Subject: RE: Request for Senior Support (UNCLASSIFIED), Wed, 11/16/2011 6:01 PM, Martin, Gary P SES USA CIV (US)
- CERDEC: SES Ms. Jill Smith agreed to her organization’s participation
E-mail: Subject: FW: Request for Senior Support (UNCLASSIFIED), Tue 10/18/2011 9:28 AM, Chappell, Andrew P USA CIV (US)
- PEO C3T: BG(P) Lee Price agreed to her organization’s participation E-
mail: Subject: Re: SSCF SRP (UNCLASSIFIED), Monday, October 03, 2011 05:45 AM, Price, Nancy L BG USA MIL (US)
- PEO IEW&S:BG Harold Greene agreed to his organization’s participation
E-mail: Subject: RE: Request for Senior Support (UNCLASSIFIED), Thu, 11/03/2011 09:26 AM, Greene, Harold J BG USA MIL (US)

Participating Organization Structures:

- ACC-APG:
 - ✓ Office of the Executive Director / Principal Assistant Responsible for Contracting
 - ✓ Deputy to the Executive Director
 - Strategic Initiatives
 - Program Integrator PEO-Soldier
 - Program Integrator JPEO-Chem Bio
 - ✓ Associate Director – SCRT
 - Aberdeen Division D
 - Installation Division
 - Edgewood Division

- *Adelphi Division (outside SRP scope— not requested to participate)*
- *Natick Division (outside SRP scope— not requested to participate)*
- *Research Triangle Park Division (outside SRP scope— not requested to participate)*
- *Denver Division (outside SRP scope —not requested to participate)*
- ATEC Mission Support Contracting Activity
- ✓ Associate Director— C4ISR
 - Aberdeen Division A
 - Aberdeen Division B
 - Aberdeen Division C
 - Aberdeen Division E
 - Tobyhanna Division
 - *Huachuca —Desert Division (outside SRP scope – not requested to participate)*
 - *Huachuca— Southwest Division (outside SRP scope – not requested to participate)*
 - Belvoir Division
- ✓ Contracting Operations Division
- ✓ Enterprise Resources Division G-1/8
- ✓ Technology, Logistics & Security Division G-2/4/6
- CECOM:
 - ✓ HQ
 - ✓ LRC
 - Command and Control Systems/Avionics Directorate
 - Communications Directorate
 - Intelligence, Electronic Warfare and Sensors Directorate
 - Logistics and Engineering Operations Directorate
 - Rapid Response
 - Readiness Directorate
 - Security Assistance Management Directorate
 - Training Support Division
 - Communications Security Logistics Activity
 - Logistics Operations Cell
- ✓ SEC

- Operations Directorate
- Business Management Directorate
- Information Office
- Command and Control Solutions Directorate
 - Engineering and Integration Division
 - Tactical Software Division
 - Future Force Technology Division
 - Fire Software Engineering Division
- Communications Directorate
 - Satellite Communications Division
 - Tactical Communications Division
 - Joint Network Division
- Intelligence, Surveillance & Reconnaissance Directorate
 - Aviation Countermeasures and Sensors Division
 - Intelligence and Information Software Support Division
 - Intelligence Fusion Systems Division
- Tactical Logistics Directorate
 - Legacy Information Systems Division
 - Support Services Division
 - Bridging Information Systems Division
 - Installation Business Systems Division
- Logistics Enterprise Directorate
 - Logistics and Solutions Office
 - Logistics Modernization Program Division
 - Industrial Systems Support Division
 - Wholesale Systems Support Division
- Enterprise Solutions Directorate
 - Data Services Division
 - Architecture Services Division
 - Software Engineering Services Division
 - Information technology Services Division

- Software Services Support Directorate
 - Software Assurance Division
 - Application Support Division
 - Software Asset Management and Centralized Acquisition License Management Division
- Field Support Directorate
 - Operations Division
 - Field Support Management Division
 - Deployment Division
- CERDEC:
 - ✓ HQ
 - ✓ Associate Director for Systems Engineering
 - ✓ Associate Director for Operations
 - ✓ Associate Director for Technology and Strategic Planning
 - ✓ C4ISR and Network modernization
 - ✓ CIO
 - ✓ Security/G2
 - ✓ Command & Control Directorate
 - Mission Command Division
 - Information & Technology Management Division
 - Quick Reaction & Battle Command Support Division
 - Army Power Division
 - Operations Division
 - ✓ Space & Terrestrial Comms Directorate
 - Systems Engineering, Architecture, Modeling & Simulation Division
 - Cyber Security & Information Assurance Division
 - Satellite Communications (SATCOM) Systems Division
 - Antennas & Spectrum Analysis Division
 - Communication Networks & Networking Division
 - Operation Division
 - ✓ Night Vision & Electronic Sensors Directorate

- Operations Division
- Ground Combat Systems Division
- Air Systems Division
- Science & Technology Division
- Special Products & Prototyping Division
- Modeling & Simulation Division
- Countermine Division
- ✓ Intelligence & Information Warfare Directorate
 - Operations Division
 - Electronic Warfare Air/Ground Survivability Division
 - Information/Network Operations Division
 - Intel Systems & Processing Division
 - Radar/Combat Identification Division
 - Signals Intelligence/Quick Reaction Capability Division
 - I2WD Flight Activity
- ✓ Software Engineering Directorate
 - Intelligence & Electronic Warfare Support Division
 - Avionics Support Division
 - Tactical Communications Division
 - Satellite & Management Systems Division
 - Cyber Security & Data Standards Division
 - Battlespace Command Solutions Division
 - Fire Support Division
- ✓ Product Realization Directorate
 - Technical Programs Division
 - CCS/Avionics Division
 - Communications Division
 - Intelligence Electronic Warfare Sensors/Night Vision Division
 - Quality Engineering & Product Assurance Division
 - Engineering Operations Division

➤ PEO C3T:

- ✓ Front Office & G-Staff
- ✓ PM Force XXI Battle Command, Brigade-and-Below
- ✓ PM Mission Command
- ✓ PM Mobile Electric Power
- ✓ PM Warfighter Information Network-Tactical
- ✓ PdM Network Systems
- ✓ PD Communications Security
- ✓ Special Projects Office
- ✓ MilTech Solutions
- ✓ PD Tactical Network Initialization
- ✓ PD Coalition, Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance

➤ PEO IEW&S:

- ✓ Front Office & G-Staff
- ✓ PM Airborne Reconnaissance and Exploitation Systems
- ✓ PM Aircraft Survivability Equipment
- ✓ PM Distributed Common Ground System
- ✓ PM Electronic Warfare
- ✓ PM Navigation Systems
- ✓ PM Night Vision/ Reconnaissance, Surveillance, and Target Acquisition
- ✓ PD Army Special Programs Office/Tactical Exploitation of National Space Capabilities Program