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**U.S. Army Acquisition Workforce:
Reflecting Modern Structural Changes**

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June 2009**

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**U.S. ARMY ACQUISITION WORKFORCE:
REFLECTING MODERN STRUCTURAL CHANGES**

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U.S. ARMY ACQUISITION WORKFORCE: REFLECTING MODERN STRUCTURAL CHANGES

ABSTRACT

This Joint Applied Project examined the acquisition workforce through the lens of *The “New” Organization*, a framework depicting modern organizational structural and process changes for improved performance. A Massachusetts Institute of Technology team developed five alternative organizational design factors: reliance on networks, flat (lean) hierarchy, flexible practices, building and embracing diversity, and capabilities for global and international efforts. This effort examined 15 Army areas and programs to determine the extent to which structural changes are more or less reflective of the five characteristics. A baseline was established and implications to various acquisition initiatives and projects were analyzed. Conclusions are drawn and recommendations are offered for continuing development and evolution towards a more modern and responsive acquisition community. Findings indicate that some Army acquisition projects appear to be shifting their structures and processes toward a greater use of networks, flatter/leaner structures and a more diverse workforce, including flexible recruiting and retention practices. The objective was to ascertain how reflective various areas and programs are alongside five, overarching “new” organizational features, and to assist leaders and managers in continuing to adapt structures and processes into the 21st century.

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EXECUTIVE SUMMARY

This project focused on exploring how current and emerging trends might impact Army acquisition workforce performance, including options for improving performance. The analysis was conducted within the context of *The “New” Organization*, which includes the following characteristics: 1) reliance on networks, 2) application of flatter (leaner) structures, 3) incorporation of more flexible practices, 4) fostering of diversity, and 5) global and international trends.

The research revealed the following concerning the acquisition workforce’s application in light of characteristics of *The “New” Organization*.

- Many organizations within the Army and the acquisition workforce have already moved towards the *use of networks* for improving their effectiveness and efficiency.
- There has been recognition throughout the Army of the need to rely on *flatter, leaner structures* where applicable.
- The acquisition workforce leadership recognizes that *flexible practices* can be useful tools for workforce satisfaction.
- The acquisition workforce leadership recognizes the need to account for *greater diversity* in accounting for the goals and objectives of the different generations of workforce employees.
- The acquisition workforce leadership is placing more emphasis on developing effective cross-cultural communication skills to adapt to the *global* business environment.

The acquisition workforce is an essential part of the overall Army workforce. The research shows that much has been accomplished towards adapting to *The “New” Organization* construct yet more needs to be done.

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I. INTRODUCTION

This study describes challenges facing the U.S. Army acquisition workforce, including insufficient numbers of acquisition professionals and performance issues. Acquisition professionals are working within more complex and ambiguous circumstances with additional requirements for overseas deployments and more rapid fielding of capabilities, while the Army simultaneously adopts a *Lean* approach to streamline processes and improve performance. This study examines the Army acquisition workforce through the lens of a concept called *The “New” Organization*¹ to determine the extent to which this workforce is reflective of this framework. *The “New” Organization* proposes five characteristics: 1) reliance on networks, 2) application of flatter (leaner) structures, 3) incorporation of more flexible practices, 4) fostering diversity, and 5) global and international trends.

A. PREFACE

The project analyzed trends, factors and forces impacting the U.S. Army acquisition workforce, e.g., attrition and retirement rates; economic, political and retention factors; military mandates; and incorporating *Lean* processes. Conclusions were drawn on possible structural causes, and recommendations were made on ways to replenish and improve Army acquisition workforce numbers and performance. Nearly one third of federal employees will reach the typical retirement age between 55 and 57 years of age by the end of 2012, including 58 percent of those now in supervisory roles, according to the Office of Personnel Management. Within the acquisition workforce, it is estimated that almost 50 percent of those employees could retire in the next five years.² While statistics seem to indicate that only 20 percent of the DoD Acquisition, Technology and Logistics (AT&L) workforce retires within one year of being eligible, even this loss of trained and experienced acquisition workforce members could adversely

¹ Deborah Ancona et al., “The “New” Organization,” in *Managing for the Future: Organizational Behavior and Processes*, ed. Unknown (Boston, MA: South-Western College Publishing, 2001), 3-19.

² Department of Defense (DoD) Acquisition, Technology and Logistics (AT&L) Human Capital Strategic Plan, Version 3.0, June 2007, 10, fig. 4.

affect the Warfighter support mission. While the recent U.S. and global stock market losses and financial crisis may cause potential retirees to postpone retirement decisions, the core issue of losing experienced personnel remains. Emerging impacts on the acquisition workforce and the Army's procurement capability continue to show signs of stress and degradation. This project contributes to a more thorough understanding of personnel loss trends and continued erosion of acquisition-skilled human capital, including providing mitigation strategies and recommendations for improvement.

One fact is that the Army acquisition workforce has been downsized to a smaller force structure since the mid-1990s, yet overall workload requirements continue unabated. A generally accepted perception is that participation in two ongoing wars increases requirements and adds complexity. Various economic stimulus plans (2008/2009) also may likely contain provisions ensuring oversight over a massive infusion of contracts, state grants and other measures. Interviews with acquisition workforce specialists revealed that this emerging long-term mandate will further overburden the defense acquisition system charged with managing and overseeing new requirements.

The Army is faced with a multitude of strategic issues, many of which are predicated on providing important products to Warfighters operating in diverse global environments. Issues facing Army acquisition leaders include determining the right size of the workforce, aligning that workforce with shifting program contracting and procurement needs, and developing and applying new technology while meeting high OPTEMPO requirements. Additionally, Army leaders are learning how to apply *Lean*, Six Sigma and risk management practices gleaned primarily from private industry.

Some strategic issues appear to require greater urgency than others, e.g., implementing a new pay for performance system, National Security Personnel System (NSPS), which is not yet fully understood by portions of management and the workforce. At a minimum, NSPS appears to be inconsistently applied throughout the workforce, thus generating real and perceived inequity issues. An ongoing challenge continues to be integrating various sub-cultures and work ethics that may be at the heart of improving relationships among uniformed, civilian and private industry partners, each often

operating under different regulations and practices. Also discussed in the study is the overall aging of the U.S. workforce and the unintended outcomes of insufficient succession planning. Substantial retirements could easily lead to severe losses in institutional knowledge. Army acquisition leaders may need to increase efforts and methods to recruit personnel at various needed levels, including aligning of necessary training. Other areas explored include revising and improving personnel policies such as telework and flexible schedules, outsourcing options, and using a wider array of intrinsic and extrinsic incentives tailored to different personnel in domestic and deployment locations.

B. RESEARCH OBJECTIVE

This research reviewed, described and analyzed the status of the U.S. Army acquisition workforce from 2003-2008, in terms of current and future issues facing the acquisition workforce. Potential areas for improvement are offered to assist acquisition leaders and managers in understanding underlying problem areas while formulating and implementing ways of ensuring mid- and long-term performance.

In framing this discussion, *The “New” Organization* construct was employed as it is comprehensive, is a useful tool for examining organizations, and has gained credibility among management scholars. We believe this study reflects the first identified use of this construct to a military application. Modern organizations seem to increasingly value a flatter workforce structure, able to respond more quickly to increasingly diverse stakeholders. The use of cross-functional and self-managed teams also appears to have increased. Almost all organizations must now compete, communicate and operate within a fast-moving, interconnected global economy.

C. RESEARCH QUESTIONS

1. Primary Research Question

What is the current status of U.S. Army acquisition in terms of personnel loss and degradation of associated, required and emerging capabilities, i.e., what is the

relationship between characteristics of *The “New” Organization* and the design, functioning and performance of Army acquisition?

2. Subsidiary Research Questions

- What are the implications of change on the acquisition workforce?
- What are the emerging role and impacts of *Lean* processes in Army acquisition?
- What are the implications of *The “New” Organization* on the future strategy for mitigating personnel losses and improving acquisition performance?
- How can components of *The “New” Organization* assist in:
 - o Retaining experienced acquisition workforce personnel?
 - o Attracting new, entry level personnel into the acquisition workforce?

D. SCOPE AND METHODOLOGY

The scope of data collection included a range of quantitative and qualitative sources internal and external to the Army acquisition workforce. Data was drawn from the DoD’s Acquisition, Technology and Logistics (AT&L) Human Capital Strategic Plan (v 3.0), Congressional testimony, the United States Office of Personnel Management’s Strategic and Operational Plan (2006–2010), Government Accountability Office (GAO) reports, relevant industry related articles and DoD briefings concerning the acquisition workforce.

Researchers also utilized Federal Times online weekly surveys over the past year. Federal Times surveys addressed many of the issues targeted in this research. Times surveys provided corroborative information through Opinion-Editorial (OpEd) commentaries by nationally recognized subject matter experts, articles by leading journalists, and quotes provided from surveys of federal workers. The Federal Times editor agreed to allow the surveys to be cited, with the understanding that the findings

reflected the overall readership. They did not necessarily represent the acquisition workforce in particular, and he stated, “[p]ast questions related to [only] the acquisition workforce tended to generate a smaller response than other more universal topics such as the Thrift Savings Plan (TSP), retirement, and telecommuting.”³ Incentives for retaining qualified acquisition workforce members are discussed. Surveys were analyzed primarily for contextual reasons to as there was an assumption that the Army acquisition workforce was generally reflected in the data set along with a broad array of other federal agencies.

This project focused on the Army acquisition workforce to explore how current and emerging trends might impact workforce performance, including options for improving performance.

The analysis was conducted within the context of *The “New” Organization*, which includes the following characteristics:

- Reliance on networks
- Application of flatter (leaner) structures
- Incorporation of more flexible practices
- Fostering of diversity
- Global and international trends

Each characteristic is described, including potential relevance to the acquisition workforce, and an assessment of the degree to which the current acquisition workforce employs or makes use of each characteristic will also be examined.

Once the features of *The “New” Organization* and relevance to the acquisition workforce have been described, conclusions are drawn, and recommendations are offered for increasing reliance on these characteristics.

³ Steven Watkins, editor, *Federal Times*, e-mail message to author, October 7, 2008.

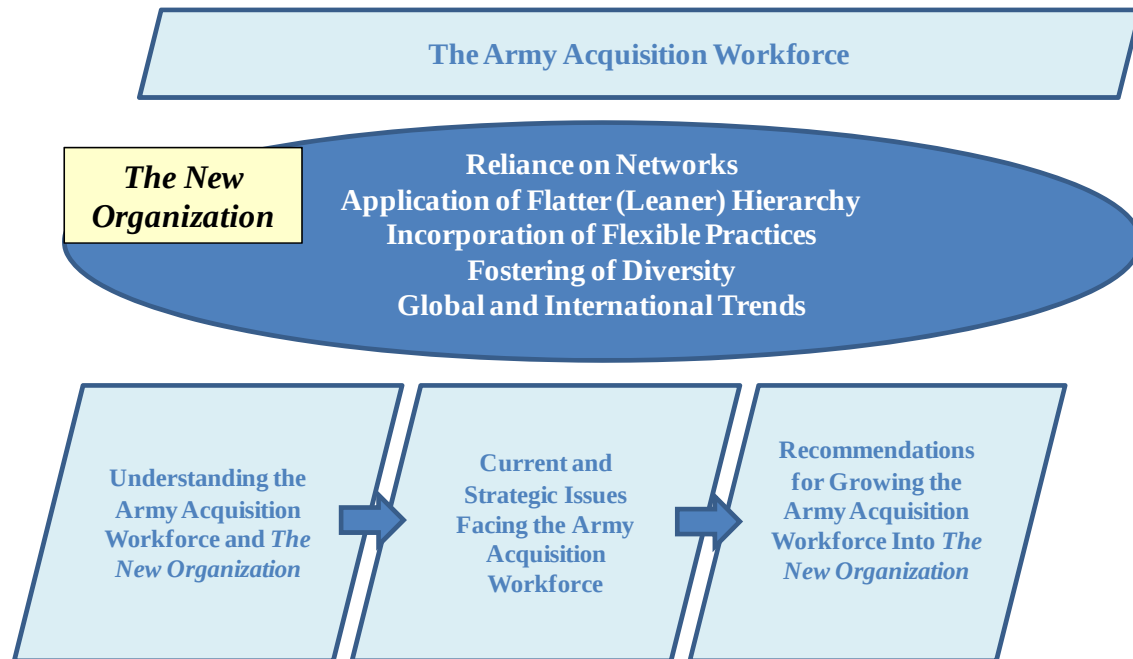


Figure 1. Project Methodology (From: Hill and Gerstein, Authors, 2009)

E. ORGANIZATION OF THE STUDY

Chapter I describes the project and research questions, and Chapter II provides an overview of the current U.S. Army acquisition workforce during the time period 2003-2008, and a foundational overview of the defining characteristics of *The “New” Organization*.

Chapter III investigates current and strategic issues facing the Army acquisition workforce utilizing *The “New” Organization* construct. The investigation incorporates a mix of quantitative and qualitative data and information.

Chapter IV provides an assessment and analysis of the degree to which the current acquisition workforce may be transitioning towards greater efficiency (internal order) and effectiveness (external adaptation) juxtaposed with *The “New” Organization* framework in five areas:

- Reliance on networks
- Application of flatter (leaner) structures
- Incorporation of more flexible practices

- Fostering of diversity
- Global and international trends

Chapter V details conclusions and recommendations for changing structure and processes to meet the needs and expectations of 21st century employees and stakeholders.

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II. BACKGROUND

A. ACQUISITION WORKFORCE (2003-2008)

According to the Defense Acquisition University (DAU), acquisition is defined as the conceptualization, initiation, design, development, test, contracting, production, deployment, logistics support, modification, and disposal of weapons and other systems, supplies, or services (including construction) to satisfy DoD needs, intended for use in, or in support of, military missions.⁴ A select workforce has been given the mission to perform these functions for the expressed purpose of supporting the full range of operational and organizational missions within DoD. This includes providing combat capabilities to Soldiers, Seaman, Airmen and Marines as well as support for the installations where they live and train.

To this end, the Defense Acquisition Workforce Improvement Act, (DAWIA) P.L. 101–510, codified in 10 U.S.C. §1701–1764 and subsequent amendments recognized acquisition as a multidisciplinary career field and required DOD to establish education and training standards, requirements, and courses for the civilian and military workforce.⁵ The DAWIA count used today to account for the DoD acquisition workforce is comprised of thirteen functional areas including auditing; business, cost estimating, and financial management; contracting; facilities engineering; industrial/contract property management; information technology; life cycle logistics; production, quality and manufacturing; program management; purchasing; systems planning, research, development, and engineering (SPRDE)-Science and Technology manager; SPRDE-

⁴ C.B. Cochrane and G.J. Hagan, *Glossary: Defense Acquisition Acronyms and Terms*, 12th ed. (Fort Belvoir, Virginia: Defense Acquisition University Press, 2005).

⁵ A House Armed Services Committee study, “Quality and Professionalism of the Acquisition Workforce,” May 8, 1990, lead to the creation of DAWIA. In FY04, extensive changes were made in the NDAA to DAWIA legislation; often referred to as DAWIA II. These amendments were made by Public Law 108-136, Chapter 87, November 24, 2003. In FY05, additional amendments in the NDAA for DAWIA were made by Public Law 108-375, Chapter 87, October 28, 2004.

systems engineering; and test and evaluation.⁶ DoD and the military services generally refer to their acquisition workforce as the Acquisition, Technology and Logistics (AT&L) workforce.

As of September 30, 2007, this workforce had a total of 126,033 members—89 percent civilian and 11 percent military. Across DoD, the Services and agencies utilize slightly different workforce capability constructs which are germane to their career field mix, size, and military composition. The Army has an acquisition workforce of 43,473, the Navy/USMC 41,177, and the Air Force 24,172. Of that total workforce, the military composition represents 3 percent, 10 percent, and 37 percent, respectively.⁷ As one can see from these numbers, the Army relies more heavily on its civilian workforce compared to the other services.

Table 1. The Defense Acquisition Workforce (From: DoD, 2007)

 The Defense Acquisition Workforce					
As of 30 Sep 07					
Career Fields (13)	ARMY	NAVY/USMC	AIR FORCE	OTHER	TOTAL
Auditing	0	0	0	3,556	3,556
Business, Cost Estimating, & Financial Management	3,877	1,817	1,488	205	7,387
Contracting	9,632	5,076	6,762	4,568	26,038
Facilities Engineering	933	3,440	4	17	4,394
Industrial/Contract Property Management	114	58	22	287	481
Information Technology	2,432	747	1,012	232	4,423
Life Cycle Logistics	6,545	4,219	1,700	140	12,604
Production, Quality & Manufacturing	2,083	1,960	326	3,995	8,364
Program Management	4,117	3,699	3,936	675	12,427
Purchasing	319	580	131	140	1,170
SPRDE - Science & Technology Manager	145	205	30	103	483
SPRDE - Systems Engineering	11,050	16,804	6,162	694	34,710
Test and Evaluation	2,135	2,549	2,592	143	7,419
Other	91	23	7	2,456	2,577
Total	43,473	41,177	24,172	17,211	126,033

⁶ National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2006, section 814, Review of Defense Acquisition Structures and Capabilities Study, June 2007, 3-6.

⁷ DoD AT&L Human Capital Strategic Plan, 2.

The focus of this study is on the civilian component of this workforce. These civilians comprised the cohort that acquired the weapon systems that led to the end of the Cold War, enabled these systems' life cycles to be extended and have actively supported many of the current contingency operation efforts around the globe over the past 30 years. Almost 50 percent of the AT&L workforce have over 20 years of experience making this group of professionals the most experienced segment of the Defense workforce.⁸ This AT&L workforce is also highly educated, with 74 percent of civilians possessing bachelors or advanced degrees.⁹

Many experienced AT&L workforce personnel are becoming eligible for retirement. In 2005, 76 percent of the DoD AT&L workforce was either in the Baby Boomer or older generation. According to the AT&L Data Mart, retirement profiles indicate that 18 percent of the civilian acquisition workforce is now eligible for full retirement. An additional 20 percent will become available within the next five years. (See the Appendix) While some RAND data seems to indicate that the AT&L civilian workforce retires at a slower rate than the overall DoD workforce,¹⁰ eventually DoD must ensure that qualified people are able to fill the positions that were previously occupied by this highly qualified workforce which will soon become vacant.

This is not just an Army acquisition workforce issue. It is estimated that by 2012, one-third of total federal workforce will be eligible to retire. In some agencies it's 46 percent (HUD and SBA). In DoD it is 33 percent. A recent report by the GAO projects that in the next three years (2009–2012), nearly two-thirds of career executives and almost half of other supervisors can retire from across the government.¹¹

⁸ DoD AT&L Human Capital Strategic Plan, 3.

⁹ Ibid., 3.

¹⁰ Ibid., 10.

¹¹ U.S. Government Accountability Office. *Older Workers: Enhanced Communication Among Federal Agencies Could Improve Strategies for Hiring and Retaining Experienced Workers* (GAO Report No. 09-206, 2009); 1.

The 2008–2009 global recession is causing many federal employees to delay retiring, thereby likely slowing the exodus somewhat. "Eventually baby boomers will leave the workforce and when they do, they will leave behind gaps in leadership, skills, and knowledge," the GAO warns.¹²

Notwithstanding such educational and training institutions as the Defense Systems Management College (DSMC), the Army Management Engineering Training Agency (AMETA), and the Army's Civilian Career Intern Program at the Red River Army Depot (RRAD), this civilian workforce was largely trained "on-the-job" with only modest formal training after entering the workforce. Only after Congress enacted DAWIA in fiscal year 1991 has continuing education and training been infused into the personnel development with the civilian acquisition workforce. In accordance with DAWIA, personnel must now be trained and managed to reach commensurate levels of education for the acquisition position. At the same time, DoD mandated a standing up of a professional military acquisition component to the civilian acquisition workforce. Prior to the implementation of DAWIA, the Army did have a uniformed acquisition corps with officer specialty codes 51 and 97 as designated acquisition specialties. In addition, this workforce was created in a traditional hierarchical structure with many layers for managers and workers at the many headquarters, arsenals, depots and bases around the world. Much of the geographic placement of these facilities was based on strategic requirements for maintaining forces and capabilities overseas, such as the 300,000 personnel that were stationed in West Germany during the height of the Cold War. While Base Realignment and Closure (BRAC) efforts have compressed the geographic footprint, many of the historical organizational structures of the workforce remain.

While historical structures may be slow to change, generally accepted knowledge is that acquisition workload and complexity continue along an increasing trend. In historic or traditional bureaucratic structures, managers directly supervised other government workers. Now, DoD civilians and contract personnel are working side by side in many organizations doing many of the same tasks. Increasingly there is a blurring of the lines between inherently governmental functions and those being performed by

¹² GAO Report 09-206, 2.

contractor personnel. In some cases, DoD personnel are being called upon to manage the work of contractors with increasingly fewer government civilians doing the actual work.

Since the military has fielded automation capabilities down to the lowest levels, we have seen a great increase in capability for ordering parts, as well as developing common operational pictures (COP) for everything from enemy order of battle to equipment distribution and fielding plans. This appears to have had positive impacts on effectiveness (external adaptation) and efficiency (internal order). This automation has also allowed some built in testing (BIT) capabilities to be part of weapon systems components, allowing immediate notification of operational errors or faults. This new capability now changes the personnel requirements for people who previously repaired and maintained the components to a need for personnel skilled in diagnosis and replacement of damaged components.

Since 2003, the United States has been actively engaged in contingency operations, necessitating timely introduction of advanced weapon systems (unmanned vehicles), global logistics and asymmetric strategies and tactics. Similarly, the Army acquisition workforce has seen a rise in both the complexity of procurement requirements and the speed with which products and services must be delivered to geographically dispersed U.S. and allied defense personnel. The large, complex bureaucratic model may be appropriate for stable, mass production efforts (e.g., 45 years of Cold War), but may not be well-suited for responding to current asymmetric and irregular global conflicts.

Therefore, while the overall goal of the acquisition workforce remains the same—to support the Soldiers, Airmen, Sailors, and Marines in the field and fleet—the requirements on the workforce have evolved over time.

B. CHARACTERISTICS OF THE “NEW” ORGANIZATION

The “New” Organization compares and contrasts classic or traditional organizational features with new features emerging in modern organizations. Some of the new features appear to be opposite from classic Weberian characteristics¹³ which arose

¹³ The German sociologist Max Weber was the first to identify a set of features systematically shared by modern large-scale public and private sector organizations.

following the 2nd industrial revolution and WWII, e.g., from hierarchical to *flat* organizational structures. The classic *machine bureaucracy* model is still pervasive around the modern world (e.g., armies, navies, McDonalds and the postal services). These bureaus have many commonalities: specialized, standardized and formalized job positions, with specified responsibilities and qualifications; control of employees through top-down formal hierarchies controlled by a clearly designated chain of command; distinct boundaries between functions; standardized training and training requirements for each career path. This has unfortunately contributed to a commonly accepted view of being too-big and too-slow to adapt to the changing world around them, e.g., failure of large financial institutions, 2008–2009.

The classic model was designed for predictability and reliability, and additional strengths, e.g., McDonalds creates virtually the same inexpensive dining experience at thousands of restaurants for millions of people every day. The U.S. Postal Service delivers millions of letters to their proper destination in a timely fashion for low rates. Most of these types of organizations operate *impartially*, e.g., striving to promote employees based on merit or performance. In general, as employees continue in a specialized job, they deepen their expertise and become more efficient, thereby lowering costs and increasing volume (experience/learning curve). Decision-making authority is centralized top-down with many supervisors typically needed to handle inevitable conflicts among separate functions or silos vying for resources.

As external environmental factors change, organizational strengths can become weaknesses, e.g., information taking too long to travel up the hierarchy to decision makers, and decisions taking too long to travel back down the layered chain of command. As an example, if the decision to acquire parts that are long lead items is delayed, two outcomes may occur. The parts may not be available when needed or the parts could have been ordered in anticipation of a positive decision that perhaps never comes.

The “New” Organization construct has five characteristics through which the Army acquisition workforce of today will be examined. Certainly, other frameworks could be employed for examining the workforce. We have chosen the structure of *The “New” Organization* as it is a comprehensive and useful tool for examining

organizations, and has gained credibility among many management scholars. Organizations have increasingly seen the value of a workforce which can operate effectively under a flatter, more streamlined structure, utilizing more diverse groups of stakeholders within a team-based architecture. Organizations have also been tasked to be more responsive to the changing environment throughout the global economy.

The “New” Organization characteristics are: (1) reliance on networks, (2) application of flatter (leaner) structures, (3) incorporation of more flexible practices to meet the challenges of multitasking, (4) fostering of diversity, and (5) global and international trends.

1. Reliance on Networks

The first characteristic of the new model is a reliance on networks including several unique components. Cross-functional teams bring together personnel knowledgeable in multiple areas who can collaborate more effectively by sharing information across and outside the organization. This structure brings together the best ideas from across all stakeholders, encouraging collaboration across multiple disciplines. The substantial use of teams can exemplify a fundamental shift in level-of-analysis from individuals to teams.

Another component is the development of new concepts for how an organization interacts with its environment. One specific example is the development of essential relationships with suppliers. Mature and productive networking could also include opening up a process whereby functional area individuals communicate directly with external functional area customers and stakeholders.

Finally, the Information Age provides unique opportunities for digital communications. Information and data can also be electronically networked increasing interagency speed, coordination and organizational learning. Virtual communities can be brought together across vast geographic distances at a moment’s notice to solve difficult problems or collaborate on key issues.

2. Application of Flatter (Leaner) Hierarchy

Another distinct characteristic of *The “New” Organization* is a flattening of the organizational hierarchy. A flat structure usually means fewer layers of management, quicker response times, and decentralization or the pushing of decision making down to lower level personnel. Flexibility and responsiveness are facilitated as the hierarchy eliminates layers, minimizes stove-piping, and allows greater local control.

Information technology allows for removing unnecessary management layers that were merely serving to move information up the chain from where the work was being done to the headquarters.

Flattening organizations also implies reducing or streamlining personnel previously needed for a particular process, again reflective of improved efficiencies. This explains the theory behind *Lean* methodology, i.e., eliminating non-core functions that do not add value to productivity.

3. Incorporation of Flexible Practices

The well defined, rigid rules and processes representative of the old (bureaucratic) organizational model may not fit a more current, aware and educated workforce. Greater flexibility and quality of life is expected from many employees, particularly younger members now entering the workforce.

The need for flexibility may reflect more varied lifestyles and more capable technology allowing employees to work from home. To the extent that the U.S. is becoming more diverse, so too must an increasingly diverse workforce be recruited and retained. The motivations and work ethics of Generation X (Gen X) and Generation Y (Gen Y) employees may be surprisingly different from Baby Boomers, hence requiring a wider array of managerial skills. Flexible practices can be used as incentives to fit a changing workforce.

4. Fostering of Diversity

The new model also illustrates the realities of incorporating and integrating diversity throughout the organization. The three previous features of the new model

reinforce the fourth: the need for *The “New” Organization* to accommodate a diversity of perspectives and approaches, career paths and incentive systems, people and policies within its boundaries and to respond to an increasingly diverse array of external constituencies and stakeholders.¹⁴

An organization that respects and accommodates diversity in its workforce and practices may find itself better placed among its competition and stakeholders. The workforce has changed and become more diverse as a growing number of women, minorities and diverse international personnel enter and leave organizations at different points in their career. This more diverse workforce poses both additional challenges and a greater likelihood of creative approaches to problem identification, construction of alternatives and problem solving.

Finally, organizations which operate under a flatter, more flexible type of management system may find they are able to network with organizations that operate along similar principles. These organizations may function more effectively and reach a larger number of customers through the acceptance of diverse viewpoints, behavior and personnel.

5. Global and International Trends

Global environment trends will now significantly impact our development of human capital strategies and include: 1) The “globalization” or interdependence of governments and economies, 2) the proliferation of Web-enabled technologies which are opening up operations within more complex, information-rich, and technologically sophisticated environments, and 3) the shifting of highly skilled workers with technical degrees from the United States and Western Europe to Central and Eastern Europe, India, and China.

With globalization, those nations that best create, develop and enhance their human resource talents may be well-positioned to experience a competitive advantage, especially in technology areas. The United States has seen a decline in the number of

¹⁴ Ancona, “The ‘New’ Organization,” 8.

science and engineering doctoral degrees in the last ten years, due to foreign students who have chosen to continue their schooling in their native countries. With an increased emphasis in Asian countries on science and engineering training and degrees, the number of foreign students who remain and work in the United States after completing advanced schooling has decreased.

It is with this understanding of the five characteristics of *The “New” Organization* that an assessment of the degree to which the current Army acquisition workforce employs or makes use of each of these characteristics is discussed next.

III. TRENDS WITHIN THE ARMY ACQUISITION WORKFORCE TOWARD THE “NEW” ORGANIZATION

A. INTRODUCTION

The vision of the Under Secretary of Defense [Acquisition, Technology and Logistics (AT&L)] encompasses all aspects of force life cycle requirements from strategy to the field operations. Figure 2 provides a short synopsis of the vision statement and details specified and implied requirements that dictate how the acquisition workforce intends to develop technology and tools to support Warfighters.

The AT&L vision is to drive the capability to defeat any adversary on any battlefield. To achieve this, we need to create an inspired, high-performing, boundary-less organization that delivers. Each person must make a difference and actively participate in creation of a motivated, collaborative, and creative organization. We need to seek out new ideas and new ways of doing business.

We need to be prepared to question requirements and traditional processes. We need to ensure the Warfighter can operate and rely on our systems. We need to collaborate effectively across traditional boundaries. We need to see ourselves as part of a community or neighborhood that comes together as stakeholders around joint projects. We must make the enterprise succeed.

This vision is driven by America’s global strategic interests and by our need for strategic resilience and strategic awareness. The world economy and the terrorist threat dictate that America’s interests are truly global.

Figure 2. DoD Acquisition, Technology and Logistics (AT&L) Vision Statement
(From: DoD, 2009)

The former Under Secretary of Defense for Acquisition, Technology and Logistics, Ken Krieg, stated in the introduction to the DoD’s AT&L Human Capital Strategic Plan (v 3.0),

Our workforce today is highly experienced, well educated, and well trained. However, we face very serious demographic challenges and potential talent shortages as we move to the future. In this environment, we must have comprehensive enterprise and specific component human capital plans to mitigate these challenges. If not effectively addressed, they will have a detrimental impact on the responsiveness and quality of our acquisition outcomes that support the national security mission. Those organizations that identify, obtain, develop, and retain the right

humancapital talents in this rapidly changing and competitive environment will succeed. Those that do not will fail. In our business, we cannot afford to fail.¹⁵

With these imperatives in mind, the acquisition workforce must be highly professional. It must comprise well-trained and knowledgeable individuals capable of making key acquisition decisions with regard to Warfighter systems.

B. RELIANCE ON NETWORKS

Over the past decade, the DoD has continued to be increasingly reliant on networks for all applications, including the acquisition workforce.

During the height of the Cold War and before the Goldwater-Nichols Defense Reform Act of 1986, the Services individually determined requirements based on broad policy, strategic and resource guidance from the Office of the Secretary of Defense (OSD). As the Chairman of the Joint Chiefs (CJCS) grew more powerful by virtue of this capstone legislation, changes occurred which have fundamentally altered the way in which requirements are generated, how the systems and capabilities are acquired, and the players who now have a voice in this expanded system. One major change was the use of the Joint Requirements Oversight Council (JROC) chaired by the Vice Chairman of the JCS (VCJCS) with its members the Vice Chiefs of Staff of the respective Services, senior members from OSD, and the Combatant Commanders (COCOMs). This has led to outcomes where systems must demonstrate their application within the context of the Joint community prior to being resourced. Essentially, one of the tasks of the JROC is to serve as a network of senior officials with the task to determine whether major weapon systems fit within the Joint architecture and therefore should be funded. This task is formalized within the Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01G, Joint Capabilities Integration and Development System.¹⁶

¹⁵ DoD AT&L Human Capital Strategic Plan, iii.

¹⁶ CJCSI 3170.01G, 1 March 2009, JCIDS Instruction. The purpose of this instruction is to establish the policies for the Joint Capabilities Integration and Development System (JCIDS). The procedures established in the JCIDS support the Chairman of the Joint Chiefs of Staff and the Joint Requirements Oversight Council (JROC) in identifying and assessing joint military capability needs, specific procedures for the operation of the JCIDS and for the development and staffing of JCIDS documents.

1. Cross-Functional Teams

In the Army, this expansion of the concept of networks occurred when General Shinseki announced the Army's Transformation in 1999. The intent was to develop a networked system that linked Warfighters at all levels with the sustaining base in order to create a seamless organization wherein the front line Soldiers could receive the latest, advanced capabilities at the appropriate time and place. Acquisition personnel, as part of the sustaining base, were a critical link in this intended enabled workforce. This linkage was a physical and conceptual melding to build virtual communities that would link the operational and institutional parts of the Army as well as networking within each component.

Networking of the Army occurs at multiple levels. At the Army level, personnel work at distributed locations such as Training and Doctrine Command (TRADOC) schools and subordinate headquarters to develop requirements statements and concepts to be fielded as part of a warfighting system. Once requirements have been established, system commands, labs, contractors and vendors tied together through contractual media and other agreements begin the process of developing capabilities to meet requirements. Testing and fielding put these capabilities in the hands of the Soldier, under the watchful eye of trained acquisition personnel, networked and working in unison from various locations around the world. This was both the vision of the Army's Transformation and the promise of the network.¹⁷

An instructive example is the development and fielding of the initial Stryker vehicle to the brigade combat teams that went from concept to fielding in about 18 months and into combat some four years later.

Some conflicts and wars unfold slowly, allowing opponents to move men, weapons and other necessary resources into place over a protracted period of time. In the current global political and military climate, incidents with the potential to develop into crises often erupt quickly. Some incidents may be short in duration thereby requiring

¹⁷ United States Army Transformation Campaign Plan (TCP), Headquarters, Department of the Army, Washington D.C., April 10, 2002.

timely decisions and logistics movements. It was into this environment that the Stryker vehicle was born.

In October 1999, General Shinseki, then Chief of Staff of the Army, announced a priority program to transform the Army into a force that could better meet future requirements to be both rapidly deployable and lethal. This Transformational Plan was designed to change the organizational structure of the Army in order to adapt to new challenges in the global environment. Two of the basic elements of this plan were the transformation of the Operational and Institutional parts of the Army. For the operational Army, this entailed the development of self-sufficient modular combat brigade teams, containing the power of a tank battalion and able to be deployed by air within 96 hours anywhere in the world. Additionally, these brigade combat teams would be used as the advance element, establishing and maintaining a presence until the rest of the force arrived, or as the main combat element depending on the conflict situation. The Interim Armored Vehicle (IAV), renamed the Stryker vehicle, a lighter combat vehicle compared to the Army's tanks, was designed to balance lethality, mobility, and survivability with the capabilities required for responsiveness, deployability, sustainability, and a reduced in-theater footprint in order to enable these new combat brigade teams to meet their objectives. While the Stryker was based on the U.S. Marine Corps Light Armored Vehicle (LAV), the Army embarked upon a modernization program which expanded the basic LAV to include eleven different variants, each with different mission packages (infantry, anti-tank, mortar, commander's vehicle, medical evacuation, etc.).¹⁸

The 2002 National Defense Authorization Act required the Army to conduct an evaluation of the Stryker vehicle design, to include deployment of the brigade combat team and execution of combat missions across the full spectrum of potential threats. The act also required the Secretary of Defense to certify that the evaluation results indicate the design was both operationally effective and suitable.¹⁹

¹⁸ Headquarters, Department of the Army Transformation Briefing to Commander in Chief, Pacific Command (CINCPAC), February 2001.

¹⁹ National Defense Authorization Act for Fiscal Year 2002, Section 113, December 28, 2001, and P. L. 107-107.

The results of a December 2003 GAO report indicated that the operational evaluation of the first Stryker Brigade Combat Team provided the Army its first opportunity to exercise and evaluate the capabilities of the Stryker brigade as a whole.²⁰ While the GAO noted that there were some issues with training, design and equipment, many of those issues were inherent with a rapid deployment of a new design. In preparation for deployment to Iraq in 2003, the Army mitigated most of the training issues. The resolution of the design and equipment issues has been ongoing as the vehicles are utilized in response to the changing current contingency operations environments.

The second part of the Army's transformation entailed changes within the Institutional Army which included the Army acquisition workforce. This envisioned change required a more responsive and forward leaning capability to support the Warfighter. The intent was to streamline the acquisition process and provide better, more timely support across all the operational environments in which the force was deployed. The time to field weapons systems needed to be reduced to go from concept to design to fielding more rapidly. Additionally, the acquisition workforce needed to have the capacity to support in forward locations in harsh environments.²¹

With the development of a new Army organizational structure with new combat vehicle requirements, the acquisition workforce needed to be able to figure out how to operate to meet the requirements brought on by a quickly changing environment. The Stryker vehicle was designed to meet the Army's requirements for being rapidly deployable and combat capable. In a span of six years, the Army announced its intention to create a new brigade, chose a vehicle, tested the operational concept, and deployed three brigades in support of Operation Iraqi Freedom.²² In 2006, outgoing Military

²⁰ U.S. Government Accountability Office. *The Army and OSD Met Legislative Requirements for First Stryker Brigade Design Evaluation, but Issues Remain for Future Brigades* (GAO Report No. 04-188, 2003).

²¹ U.S. Army TCP, 18.

²² U.S. Government Accountability Office. *Defense Logistics: Changes to Stryker Vehicle Maintenance Support Should Identify Strategies for Addressing Implementation Challenges* (GAO Report No. 06-928R, 2006), 1.

Deputy (MILDEP) to the Assistant Secretary of the Army, Acquisition, Logistics and Technology (ASA (ALT)), LTG Yakovac, Jr. stated:

Today, when you talk about our products that are really in the battlespace, it is now an integrated battlespace. So we must do a better job of working together from the beginning—from requirements generation all the way through fielding. The Stryker program is an example of various PMs—not just PM Stryker—coming together to provide an integrated capability. Networking is absolutely a piece that needs everyone’s attention and they must understand it. So again, we have a capability that delivers what the Warfighter needs, but now it has been engineered to be both affordable and sustainable in the long run. It’s a community-wide challenge, and it’s one that we must continue to address. We have a professional workforce that knows how to accomplish that.²³

A new networked acquisition process appeared to improve the links between combat developers, the acquisition workforce and the Warfighter.

2. Organization Interacts with Environment

Looking at the Future Combat System (FCS) provides useful lessons on how the acquisition workforce applied networks effectively. In the case of the concept development, the FCS overarching concept was well-coordinated in a similar manner as described above for the Stryker family of systems. A number of documents were produced that reflected the collaboration throughout the Army and particularly within the Training and Doctrine Command (TRADOC) proponents and schoolhouses. This coordination was initially reflected in briefings such as The Objective Force Maneuver Unit of Action: FCS-Equipped Combat Battalion O&O²⁴, but were later codified in such published documents as Field Manual (FM) 3-0, *Operations*²⁵ and TRACOC Pamphlet (TP) 525–66, *Force Operating Capabilities*.²⁶ The Army White Paper, *Concepts for the*

²³ Hermes, Cynthia. “LTG Joseph L. Yakovac, Jr Reflects on Army Acquisition Changes and Accomplishments.” Army AL&T Magazine. October-December, 2006. http://asc.army.mil/docs/pubs/alt/2006/4_OctNovDec/articles/66_LTG_Joseph_L._Yakovac_Jr._Reflects_on_Army_Acquisition_Changes_and_Accomplishments_200604.pdf (accessed on May 30, 2009).

²⁴ Headquarters, Training and Doctrine Command Briefing, undated, “The Objective Force Maneuver Unit of Action – FCS-Equipped Combat Battalion O&O.”

²⁵ U.S. Department of the Army, *Operations*. Field Manual 3-0. Fort Monroe, VA: U.S. Army Training and Doctrine Command, 2001.

²⁶ U.S. Department of the Army. *Force Operating Capabilities*. TRADOC Pamphlet 525-66. Fort Monroe, VA: U.S. Army Training and Doctrine Command, 2003.

Objective Force was written to provide the context for understanding Army Transformation and the objective force.²⁷ Since the centerpiece of the objective force for major combat units was the FCS, the requirements for all aspects of the system from maneuver to support were documented and disseminated across the Army.

The overarching concept that unified the Army towards the 18 + 1 + 1 construct was indeed well-coordinated throughout the force. Individuals and organizations responsible for the early concept development began to codify the requirements for FCS in the program and the near-term budget submissions. For example, in the FY01 President's Budget, Science and Technology (S&T) received a .6 percent real growth in topline from the previous year.²⁸ This funding for S&T was directed towards the goal of a 20-ton family of vehicles to cover the range of envisioned operational missions using a common network focused on the Soldier. The goal as stated by the Chief of Staff, Army, General Shinseki was to trade Information Age capabilities for armored protection to allow Soldiers and units to see first, understand first, act first and finish decisively.²⁹

Many current enhancements on the battlefields in Iraq and Afghanistan today are descendents of this early work. The Brigade Combat Team (BCT) organizational structure is in many respects an early version of what the FCS unit organizational structure will look like, albeit with non-FCS vehicles. Likewise, the vast improvements in the network clearly demonstrate how the acquisition community was able to translate a critical requirement for situational awareness from the FCS program and spin it forward to allow for early fielding of an FCS-like technology networking capability.³⁰

The Research and Development (R&D) that was ongoing on FCS also allowed for the individual systems and capabilities that had matured most quickly to be fielded early.

²⁷ U.S. Department of the Army. *United States Army White Paper: Concepts for the Objective Force* (Washington, D.C., 2001), ii.

²⁸ Headquarters, Department of the Army Military Operations-Force Development Briefing, 2001, "Army Modernization, 4.

²⁹ United States Army White Paper: Concepts for the Objective Force, 6.

³⁰ McClelland, Richard E. "Spinning Out Future Force Technologies to Warfighters Today." *Army AL&T Magazine*. November-December 2005. http://asc.army.mil/docs/pubs/alt/2005/6_NovDec/articles/08_Spinning_Out_Future_Force_Technologies_to_Warfighters_Today_200506.pdf (accessed April 18, 09).

Examples include unmanned aerial vehicles (UAVs), unattended ground sensors and robotics that have been incorporated into the force. While the Warfighter generated the requirements, it was the acquisition workforce that devised the spin-out approach that sped the transition of technologies, systems and capabilities to the field.

After announcing his plan to transform the Army in October of 1999, General Shinseki initially turned to the Defense Advanced Research Projects Agency (DARPA) for their assistance in managing this highly technical concept. DARPA and the Army already had an earlier initiative in which the defense industry was invited to offer ideas to help define operational and technology purposes for a future Army brigade.³¹ In February 2000, DARPA and the Army signed a collaborative Memorandum of Agreement (MOA) to develop FCS,³² leveraging the earlier DARPA/Army initiative. Through this partnership, the Army would be able to utilize the DARPA contracting instruments, which were more flexible than the Army's.³³ In May 2000, DARPA and the Army awarded four Other Transaction Agreements (OTA) for prototype programs to four industry teams to develop the first phase of FCS designs.³⁴

In March 2002, DARPA and the Army then chose two of the companies to be the Lead System Integrators (LSIs) for the concept and technology development phase of the FCS program and that decision was approved by the Defense Acquisition Board (DAB)

³¹ Yakovac, Joseph. "Early Lessons Learned from the Army's Future Combat Systems Program (FCS): Developing an Appropriate Contractual Arrangement with Industry, Establishing an Enabling Program Management Structure and Test Organization." (NPS-GSBPP-08-33, Naval Postgraduate School, 2008), 4.

³² Schenk, Donald, Program Manager, Future Combat Systems. Headquarters, Department of the Army Briefing, entitled, "Future Combat Systems Program Update". [Power Point Slides]. March 22, 2002. <http://www.dtic.mil/ndia/2002combat/schenk.pdf> (accessed June 9, 2009).

³³ Flood, Scott and Paul Richard. "An Assessment of The Lead Systems Integrator Concept as Applied to the Future Combat System Program." Defense Acquisition Review Journal. December 2005-March 2006. <http://www.dau.mil/pubs/arq/2006arq/2006arq-41/flood.PDF> (accessed June 10, 2009).

³⁴ An OTA is the commonly used term referring to the 10 U.S.C. 2371 authorities to enter into transactions other than contracts, grants or cooperative agreements. An OTA for prototype projects is an acquisition instrument authorized by Section 845 of Public Law 103-160, as amended, under 10 U.S.C. 2371. Prototype projects acquired under this authority must be directly relevant to weapons or weapon systems to be acquired or developed by DOD.

in 2003.³⁵ The intended purpose of the LSI was to provide the systems engineering and management oversight throughout the development phases of the program, and be responsible for the delivery of the system-of-systems capable of engaging in net-centric warfare.³⁶ The complexity of the total FCS program was seen to exceed the capabilities of the Army to manage this effort. A GAO report says the following,

In 2003, the Army contracted with an LSI for FCS because of the program's ambitious goals and the Army's belief that it did not have the capacity to manage the program. The original timeframe for FCS's development was a shorter time frame than for an individual weapon system program, let alone a complex systems-of-systems program with a high number of immature technologies at program start. The Army realized that its compartmentalized workforce did not lend itself to the kind of crosscutting work that the FCS program would demand. The Army workforce also did not have the expertise needed to develop the FCS information network or enough people to support the program had it been organized into separate program offices. In contracting with the Boeing Company as LSI, the Army believed it found a management partner who could define and develop FCS and reach across the Army's organizations. Boeing subcontracted with another company, Science Applications International Corporation, to assist with its responsibilities as LSI.³⁷

This same sentiment is described in even more direct terms in the *Defense Acquisition Review Journal* in which the authors state, "The concept's [the LSI's] two biggest advantages are its ability to fill in the personnel capability gap and subcontract management."³⁸ The authors go on to describe the advantages of the LSI approach as follows, "The primary value of using an LSI for the FCS program was in the area of manpower. Several years of downsizing in the Army acquisition workforce, combined

³⁵ Feickert, Andrew. "The Army Future Combat System (FCS): Background and Issues for Congress." Congressional Research Service (CRS) Report RL32888. March 13, 2009. <http://www.fas.org/sgp/crs/weapons/RL32888.pdf> (accessed May 30, 2009).

³⁶ Flood, 360.

³⁷ U.S. Government Accountability Office. *Role of Lead Systems Integrator on Future Combat Systems Program Poses Oversight Challenges* (GAO Report No. 07-380, 2007).

³⁸ Flood, 360.

with an order of magnitude increase in the size and complexity of the program, created an immense capability gap between the amount of human capital available and what was required to execute the FCS program.”³⁹

Lieutenant General (R) Joseph Yakovac, Jr., objects to the GAO and *Defense Acquisition Review Journal* characterizations that the Army chose to utilize an LSI due to acquisition workforce or organizational issues.⁴⁰ LTG Yakovac recognizes that “although there was much discussion about the ability of the acquisition workforce to properly manage and deliver FCS, that issue certainly was not the deciding factor in the selection of the LSI arrangement.”⁴¹ Rather, in email and phone discussions with him, he believes the LSI concept was utilized as the complexity of the FCS program became more evident. FCS is unique in that in addition to the core program structure of 18 + 1 + 1, FCS also included Complementary Systems, systems that were developed outside of the core FCS program but were necessary for the FCS systems to work together and/or to support the program.⁴² As the Training and Doctrine Command (TRADOC) began the process to determine, develop and analyze all the FCS requirements, the need for an LSI was identified.⁴³ This unique contractual arrangement with an industry partner would provide the systems engineering and management oversight throughout the development phases of the program to integrate all the necessary capabilities the Warfighter demanded of FCS. LTG Yakovac (R) states:

The FCS requirement challenged Army acquisition professionals to think outside of the box; yet, they were forced to use the tools available to them to create an acquisition and management strategy to deliver a highly integrated system-of- systems. By leveraging lessons learned and working closely with the warfighting community, the acquisition leaders of FCS initiated a unique contractual arrangement with a Lead Systems Integrator,

³⁹ Flood, 360.

⁴⁰ LTG (R) Joseph Yakovac, Jr. was the PEO Ground Combat Systems (GCS) from June 2000 to November 2003. PEO (GCS) became responsible of the FCS program upon its transition from the Army/DARPA contract to the Army-only contract. LTG (R) Yakovac later became the Military Deputy/Director, Army Acquisition Corps, Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) from November 2003 to November 2006.

⁴¹ LTG Yakovac, e-mail message to advisor/author, June 9, 2009.

⁴² Yakovac, 3.

⁴³ Ibid, 9.

a program management organization based on tenets developed by all parties, and a test organization designed to validate the performance of individual components, systems, and ultimately, the system-of-systems.⁴⁴

One can see validity to both of these viewpoints concerning the use of an LSI in the FCS program. The program was the most complex program the Army had ever undertaken. Evidence suggests that the Army acquisition workforce was perceived as not being up to the task to manage such a large endeavor, necessitating the use of an LSI. However, it can also be argued that the use of an LSI flowed naturally from the DARPA/Army contract methodology that LTG(R) Yakovac references. While this issue remains a point of contention, it is clear that contractor effort was used to replace some aspects normally provided by the acquisition workforce in the management of the FCS program.

The Joint Tactical Radio System (JTRS) provides an example of a Joint system where the acquisition workforce utilizes the Joint Capabilities Integration and Development System (JCIDS) process to ensure system requirements are established across the Services to satisfy all Key Performance Parameters (KPPs).⁴⁵ JTRS has evolved from simply replacing legacy radio systems across DoD to an integrated network of multiple radio systems across the entire frequency spectrum.

For JTRS, the Services collaborated to arrive at a set of KPPs, and conducted testing of the systems in a Joint environment to correct any discrepancies. The manner of decision making is to have all stakeholders participating in discussions of required capabilities such that all are heard and adjudicated. This does not mean that all stated requirements will be incorporated, but rather that in a collaborative manner, all are considered. Prior to management reorganization in 2005, this process proved to be somewhat lengthy, as key decisions were made by consensus, oftentimes making it

⁴⁴ Yakovac, 21.

⁴⁵ CJCSI 3170.01G, 1 March 2009, JCIDS Instruction. The purpose of this instruction is to establish the policies for the Joint Capabilities Integration and Development System (JCIDS). The procedures established in the JCIDS support the Chairman of the Joint Chiefs of Staff and the Joint Requirements Oversight Council (JROC) in identifying and assessing joint military capability needs, specific procedures for the operation of the JCIDS and for the development and staffing of JCIDS documents.

difficult to resolve inter-service differences involving requirements and funding.⁴⁶ Under the revised JTRS Acquisition Governance Model, stakeholder disagreements are elevated to and decided by a JTRS Executive Council and later by a JTRS Board of Directors, if necessary. This model decreases the time needed for acquisition decisions to be made while still coordinating with all DoD stakeholders.⁴⁷

3. Electronically Networked Information and Data

The mission of the Assistant Secretary of the Army for Acquisition, Logistics and Technology ASA (ALT) is to equip and sustain the U.S. Army. ASA (ALT)'s first responsibility is the production of best value capabilities provided to Warfighters where and when needed. This electronic networking operates within two distinct systems. The first is the manner in which acquisition professionals are networked in performing their daily duties. The second is the manner in which the field or the fleet communicates requirements to the acquisition workforce.

Electronic databases used by PMs, engineers, logisticians, cost analysts, financial managers, testers, contracting specialists, production and quality managers, etc. (i.e., the 13 functional areas in acquisition) can be used to store and share data—cross-functionally, and among the various stakeholders. This clearly demonstrates the first example of this networking. A recent Defense AT&L publication geared towards Human Capital issues provides an illustration of the various electronic collaboration websites available to the acquisition professional. Examples include websites such as the Army Acquisition Support Center, the AT&L Knowledge Sharing System (AKSS), the Central Contractor Registry and the Defense Acquisition University and the Acquisition

⁴⁶ U.S. Government Accountability Office. *Defense Acquisitions: Restructured JTRS Program Reduces Risk, but Significant Challenges Remain* (GAO Report No. 06-955, 2006), 18.

⁴⁷ DoD, *Joint Program Executive Office (JPEO) for the Joint Tactical Radio System (JTRS) Organizational Overview*. Undated. http://jpeojtrs.mil/files/org_info/JPEO_JTRS_Org_Overview.pdf (accessed May 30, 2009).

Community Connection (ACC), to name several. These references allow for sharing information on topics from acquisition databases to managing training requirements to modeling and simulation.⁴⁸

The second example of electronically networked data demonstrates the linkage between the field and the acquisition workforce. The Property Book Unit Supply Enhanced (PBUSE) system exemplifies how the acquisition workforce accomplishes this responsibility through the use of electronically networked information and data.

IAW Army Regulation (AR) 700-142 and Department of the Army Pamphlet (DA PAM) 700-142, the Army uses the Total Package Fielding (TPF) process to provide units with material systems that are fully supportable, with minimum disruption to the unit's day-to-day operations. The TPF process is designed to ensure thorough coordination among the materiel developer, combat developer and the gaining Army commands and specific units in planning for the fielding of the system. This planning includes the determination of all requirements up front, the funding and requisition of nearly all needed equipment, and the consolidation of any support items into unit-level packages. The TPF process also coordinates the distribution of the major system, the associated support items of equipment, and support packages, such as manuals or training, to a central staging site or to the gaining unit itself.

Due to continued involvement in current contingency operations, the Army is seeking ways to bridge the capability gaps existing outside the traditional TPF process to better support forward deployed Warfighters. This is being done by linking the acquisition workforce to the Warfighter through the field logisticians. Two examples of this include the Rapid Equipping Force (REF) and the Rapid Fielding Initiative (RFI) and the PBUSE systems.

The REF and the RFI are two Army initiatives that expeditiously provide the necessary equipment to the operational commanders in the field. Often the accountability procedures of these two initiatives may not be fully documented as these initiatives are

⁴⁸ Department of Defense (DoD) Acquisition, Technology and Logistics (AT&L) Special Human Capital Edition, 2009, 41-42.

designed to get the equipment to the Warfighter as soon as possible. Many times there is a lack of an automated system interface between the acquisition community and the operational units. Operational units may be co-located and equipment may be packaged for a specific forward operating base (FOB), not to the individual units who request the equipment. Accountability within the Logistic Support Activity (LOGSA's) Logistics Information Warehouse (LIW)⁴⁹ of both the equipment items and the value of that equipment cannot be accurately matched to the specific units it was originally designated to go to, even though units may report the equipment as being on-hand. PBUSE was designed to provide the missing accountability and asset availability for the REF and the RFI.

PBUSE is the Army's first web-based logistics property accountability system, providing the means to maintain accountable records for the Army's inventory of property. This encompasses over 14,855 users in both the Modification Table of Organization and Equipment (MTOE) and Table of Distribution and Allowances (TDA) for units within the Active Army, the Army National Guard and the Army Reserves.⁵⁰ PBUSE is unique in that it interfaces with a number of other critical logistics systems, to include the LOGSA LIW, the Standard Army Retail Supply System, the Defense Finance and Accounting Service Corporate Database, the Army War Reserve Deployment System, the General Funds Enterprise Business System, the Central Issue Facility-Installation Support Module, the Worldwide Ammunition Reporting System, and Program Executive Office (PEO) Soldier's fielding application⁵¹. PBUSE continuously supplies decisive management and financial accountability data to these systems in real-time, thereby providing an accurate accountability chain.

⁴⁹ Logistic Support Activity (LOGSA's) Logistics Information Warehouse (LIW) is the first step in creating a single, authoritative source of logistics information for the Army. LIW provides a common point of entry to the existing Web capabilities of the Logistics Integrated Data Base (LIDB), the Integrated Logistics Analysis Program (ILAP), and other LOGSA tools. The LIW is the first step in the Army-directed merger of all LIDB and ILAP capabilities.

⁵⁰ Pablo Brown and John Laudan. "Acquisition and PBUSE." *Army Logistician* 41.2 (2009). March-April 2009. http://www.almc.army.mil/alog/acquisition_pbuse.html (accessed April 18, 2009).

⁵¹ Brown, "Acquisition and PBUSE," 2.

In January 2007, the ASA (ALT) and the Army G-4 mandated that all PEO/PMs utilize the PBUSE to more accurately and efficiently facilitate the fielding of material to the field. As PBUSE is a web-based application, no additional hardware is required to be purchased by the PEO/PMs. As this is the same system the Warfighter utilizes to account for and track their equipment, PBUSE is able to provide Army-wide visibility of equipment status to any organization with access. Through the use of this common software system, efficiencies can be obtained as duplication, stovepiped operations and associated training and maintenance costs are reduced. Finally, units should be able to laterally transfer equipment electronically instead of by hardcopies.

An example of information and data that is electronically networked and directly impacts on the acquisition workforce is the system by which parts are ordered in units through the Unit Level Logistics System - Ground (ULLS-Ground). All services now have systems enabled by technology that link unit level clerks in the field directly to the sustaining base—including the suppliers of the parts and others in the acquisition workforce to resolve issues from parts requisitions to technical questions about equipment. In this way, echelons dedicated to ordering parts and the associated personnel were able to be eliminated. This was made possible through both technological enhancements in which networks were extended to the lowest levels, as well as the development of a virtual network which linked the disparate parts of the system.

In many regards, the acquisition workforce has been modernized to take advantage of the networks, both physical and virtual, that have been made possible through technology, but more opportunities exist. DOD and Army websites such as the Acquisition Community Connection (ACC) and the Army Knowledge Online (AKO), respectively, are becoming more interactive and allowing for on-line conversations and collaboration. However, as we have seen in the non-DOD applications, there is an expansion of social networking sites that have the potential to change how business is

done in DOD. New social networking sites such as Facebook⁵² and Twitter⁵³ are allowing for even greater connectivity and broader data sharing across communities of interest. While the ACC is more structured than Facebook or Twitter and provides a mechanism for users to share in acquisition discussions and interest areas, applications of these types are not incorporated as extensively throughout DOD. One recent example of the Army's expansion into the social networking area is their use of Facebook as it seeks to interest potential recruits.⁵⁴ Perhaps it will always be a challenge to keep up with technology in a government workforce, especially in a maturing acquisition industry.

C. APPLICATION OF FLATTER (LEANER) HIERARCHY

The application of flatter (leaner) hierarchy actually relates to and flows from the previous characteristic, reliance on networks. Developing virtual networks allows for flattening of the organizational structures, eliminating entire echelons in the process. While the Army has made significant inroads in discussing and incorporating *Lean* processes throughout the institutional and operational Army, much work remains to be done. In 2006, the GAO reported that the DoD technology transition processes, the transitioning of mature technologies to the acquisition community for further development and demonstration, could be made stronger. Specifically, the GAO recommended that DoD make greater use of tools, such as technology transition agreements, relationship managers, and metrics, to increase its ability to deliver mature technologies when needed, address transition issues more quickly, and to gauge the impact of their science and technology investments and lab processes.⁵⁵ To that end, in

⁵² From <http://en.wikipedia.org/wiki/Facebook>, Facebook is a free-access social networking website that is operated and privately owned by Facebook, Inc. Users can join networks organized by city, workplace, school, and region to connect and interact with other people.

⁵³ From <http://en.wikipedia.org/wiki/Twitter>: Twitter is a free social networking and micro-blogging service that enables its users to send and read other users' updates known as tweets. Tweets are text-based posts of up to 140 characters in length which are displayed on the user's profile page and delivered to other users who have subscribed to them (known as *followers*). Senders can restrict delivery to those in their circle of friends or, by default, allow anybody to access them.

⁵⁴ "Pentagon targets recruits on Facebook, Twitter" MSNBC. May 1, 2009.
<http://www.msnbc.msn.com/id/30513702/> (accessed May 14, 2009).

⁵⁵ U. S. Government Accountability Office. *Best Practices: Stronger Practices Needed to Improve DOD Technology Transition Processes* (GAO Report No. 06-883, 2006); 45-46.

March 2008, the Army implemented a *Lean Six Sigma* Black Belt project on technology transition to further capitalize on the GAO recommended processes.⁵⁶

The goals for this particular characteristic are listed below.⁵⁷ As they relate directly to each other, the examples will illustrate this interaction.

- Fewer layers of management, quicker response times, and a decentralization pushing decision making down to lower levels.
- Removing unnecessary management layers
- Reducing the personnel dedicated to a particular process or organizations thus creating significant efficiencies

The question to be asked in implementing *Lean* in an organization is whether the functions performed are core processes. If not, the theory goes, they should be eliminated (or outsourced) and the organizations or processes that performed these non-essential functions eliminated. The result would be leaner, more efficient organizations.⁵⁸

In the 2006 GAO Forum on Federal Acquisition Challenges and Opportunities in the 21st Century, it was noted that too many layers of bureaucracy exist in the current acquisition process, and weapon systems may not reach Warfighters as expeditiously as possible. This forum stated that potential improvements in technology, electronic procurement and commerce tools are needed to streamline and automate acquisition business processes, which in turn will also influence the types of skills the acquisition workforce will need in the future.⁵⁹ The application of *Lean* methodologies could allow for the reduction of personnel dedicated to tasks, as well as reorganization within each of the areas to arrive at flatter, leaner organizations.

⁵⁶ U. S. Government Accountability Office. Summary Recommendations for *Best Practices: Stronger Practices Needed to Improve DOD Technology Transition Processes* (GAO Report No. 06-883, 2006). <http://www.gao.gov/products/GAO-06-883> (accessed March 1, 2009).

⁵⁷ Kirby, Michael. Deputy Under Secretary of the Army (DUSA-BT). Headquarters, Department of the Army Briefing, entitled, "Business Transformation". Accessed April 29, 2009.

⁵⁸ Kirby, "Business Transformation".

⁵⁹ U.S. Government Accountability Office. *Federal Acquisition Challenges and Opportunities in the 21st Century* (GAO Report No. 07-45-SP, 2006), 17.

1. Quicker Response Times

In light of the recommendations made in the 2007 Gansler report,⁶⁰ Secretary of the Army Peter Geren directed the establishment of an Army Contracting Campaign Plan, a set of policies and procedures designed to position the Army to provide better acquisition and logistical support for future combat operations. Secretary Geren also directed the restructuring of the way contracting was provided to the Warfighter and established a provisional contracting command on March 13, 2008. The command was put in place to provide structure and strengthen the Army's core competencies in contracting in support of the Warfighter, and prevent further instances of the fraud and abuse that were discovered in many of the Iraq war contracts. Army contracting activities can acquire the technology, supplies, and services needed for Warfighters through a combination of responsive and innovative support.⁶¹

On October 1, 2008, the Army formally recognized the Army Contracting Command (ACC) as a major subordinate unit within the Army Material Command (AMC), whose mission is to provide global contracting support to Warfighters through the full spectrum of military operations. The ACC is structured as a two-star level command with two subordinate one-star level commands and will allow the leveraging of contracting assets across AMC. Figure 3 provides a graphic depiction of this organization.

⁶⁰ United States Army. Independent Commission on Army Acquisition and Program Management in Expeditionary Operations. (October 2007). *Urgent Reform Required: Army Expeditionary Contracting*. Washington, D.C.

⁶¹ Ethan Jones. "The Acquisition, Logistics, and Technology Contracting NCO." *Army Logistician* 39.4 (2007). July-August 2007. http://www.almc.army.mil/alog/issues/JulAug07/contracting_NCO.html (accessed April 18, 2009).

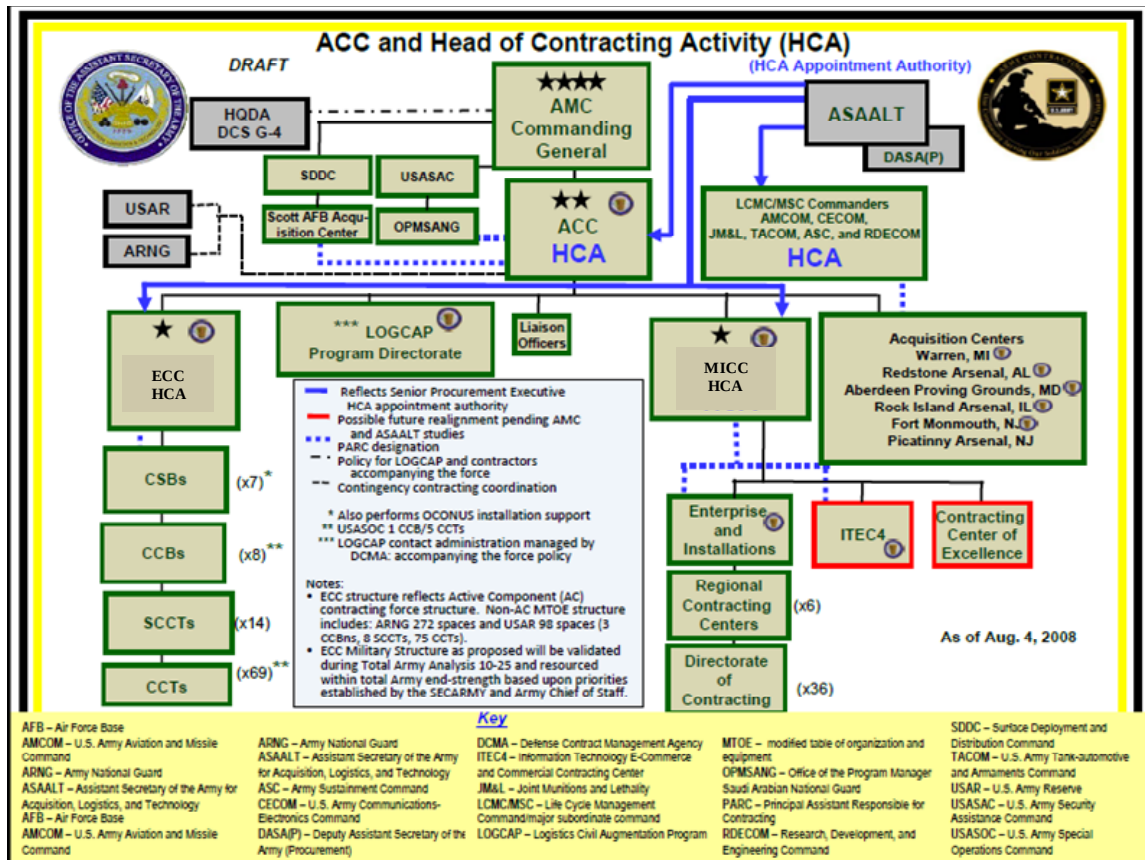


Figure 3. Reorganization of ACC (From: U.S. Army, 2008)

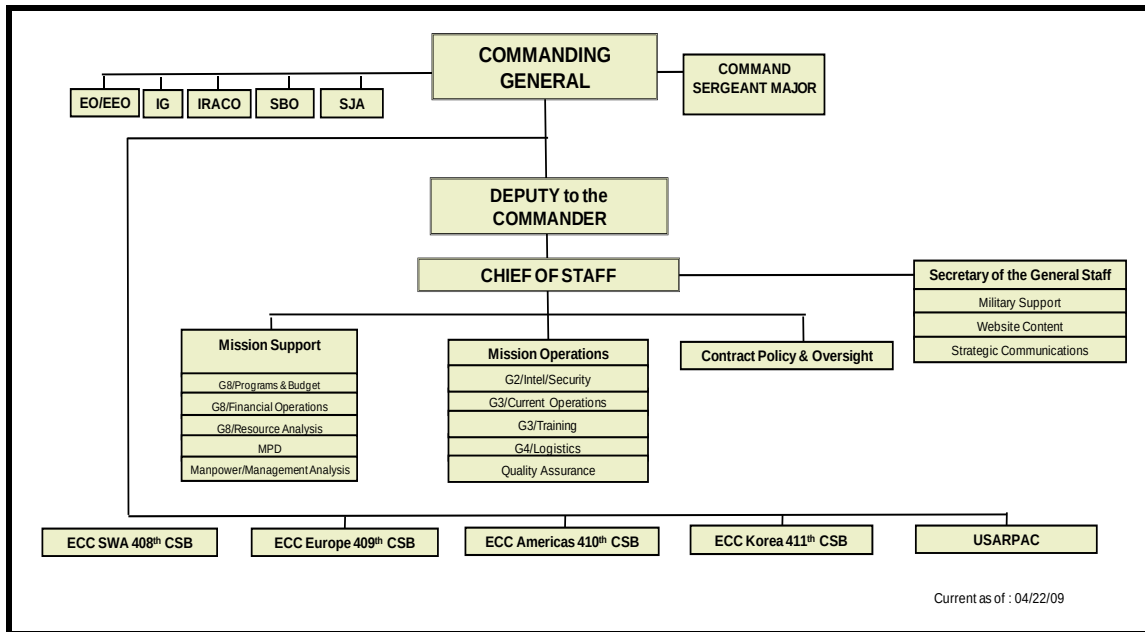


Figure 4. ECC Organizational Chart (From: U.S. Army, 2009)

As organized (Figure 4), the ECC provides dedicated, modular contracting support to its deployed units. The Army's core of military commissioned and noncommissioned officers (NCO) trained as contingency contracting officers now make up the seven Contracting Support Brigades (CSBs). These CSBs include embedded contract planners to coordinate contract requirements with the operational commanders in the field. These CSBs are regionally aligned to the existing Army Service component command headquarters and provide the primary contracting support planning, advising and contingency contracting to the theater Army. CSB's are located in the United States and overseas supporting operations in Southwest Asia, Korea, Europe, Africa, the Pacific, South America, and North America. The CSBs are made up of the subordinate units, Contingency Contracting Battalions (CCBs) and Contingency Contracting Teams (CCTs).

As envisioned, Army expeditionary contracting capabilities will grow to seven CSBs, with eight Contingency Contracting Battalions (CCBs), 14 Senior Contingency Contracting Teams (SCCTs) and 69 Contingency Contracting Teams (CCTs).

Additionally, fielding of three CCBs and 83 SCCT/CCTs has already begun to provide the Reserve Component a surge capability for operational contracting.

Currently within the active Army, there is one CSB and one CCB in support of the following Army Service Component Commands (ASCC),

- U.S. Army Central (USARCENT)
- U.S. Army North (USARNORTH)
- U.S. Army South (USARSO)
- U.S. Army Europe (USAREUR)
- U.S. Army Pacific (USARPAC)
- U.S. Army Africa (AFRICOM)
- Eighth Army (EUSA)

The current requirement for the SCCTs is one per Army division. The SCCTs are located with the:

- 1st Armored Division, Wiesbaden Germany
- 1st Cavalry Division, Fort Hood, Texas
- 1st Infantry Division, Fort Riley, Kansas
- 2nd Infantry Division, Camp Red Cloud, Korea
- 3rd Infantry Division, Fort Stewart, Georgia
- 4th Infantry Division, Fort Hood, Texas
- 10th Mountain Division, Fort Drum, New York
- 25th Infantry Division, Schofield Barracks, Hawaii
- 82nd Airborne Division, Fort Bragg, North Carolina
- 101st Airborne Division, Fort Campbell, Kentucky⁶²

While this almost appears to be counter intuitive to a leaner structure, this configuration allows for contracting issues to be handled at a much lower level and facilitates a more “hands on” approach during the planning and coordination of contracting operations in-theater. This structure provides a single source Army

⁶² Nichols, Camille. Commander, U.S. Army Expeditionary Contracting Command. Headquarters, U.S. Army Material Command Briefing, entitled, “Expeditionary Contracting Command.” (accessed May 1, 2009).

contracting point of contact for the maneuver commander and facilitates the continued ability to meet contingency contracting commitments. Front line units will have their own contracting elements forward deployed with them. This modular concept of organization will afford contracting elements the ability to train and deploy as a unit and provide general support in order to better meet and address contingency operation requirements. The ECC lives by the motto stated on many of their command briefings, “Need to be faster, more agile, less bureaucratic – Need to fight this every day.”

To gain the efficiencies (i.e., quicker response times) envisioned in this new command, additional emphasis will be required for training and educating this workforce. Therefore, to mitigate one of the challenges facing the ACC workforce as it continues to grow to its full strength of 5,800 civilian and military contracting personnel is ensuring the training and development of its civilians. This ACC growth in personnel is in line with the Army’s commitment to develop its acquisition workforce. To this end, the current ACC Executive Director, Jeff Parsons, sees his most important role as taking care of the people who make up this new command.⁶³ Mandatory, standardized contracting training will be required early within a military or civilian career path.

2. Unnecessary Management Levels

Another example of the flattening of hierarchies within the Army acquisition workforce was the implementation of the Life Cycle Management (LCM) Initiative which was formally approved in 2004. The LCM Initiative is the Army’s implementation of Directive 5000.1 from the DoD, Total Life Cycle System Management. This flattening of hierarchies by removing a management level was a multi-step realignment process. Prior to 2001, Program and Project Managers (PMs) and their requisite acquisition programs fell under one of three major Army Material Command (AMC) subordinate commands. In October 2001, the Army abolished a level of AMC hierarchy by realigning all PMs into existing, restructured or newly created Program Executive Office (PEO) organizations. According to an article on life cycle management, “This

⁶³ Army Contracting Command Top Stories home page, “*The Army Contracting Command-AMC’s Newest Major Subordinate Command*”, <http://www.amc.army.mil/acc/acc-article-001.asp> (accessed April 18, 2009).

action abolished the Deputies for System Acquisition in three AMC major subordinate commands (the Army Aviation and Missile Command, Army Tank-automotive and Armaments Command, and Army Communications-Electronics Command) and realigned their functions to the PEOs.”⁶⁴ This restructuring provided a single, streamlined chain of command for acquisition functions and made them responsible and accountable for all life cycle phases of their assigned programs. However, this realignment did not include the funding, personnel, or other necessary resources required to conduct sustainment functions. Since sustainment costs are typically the largest portion of life cycle costs for weapon systems, it became imperative to align this support structure under those professionals charged with the responsibility and accountability for all life cycle phases of a weapon system, the PEO/PM.

In 2002, AMC further advanced the Army LCM initiative by creating the Army Research, Development, and Engineering Command (RDECOM), thereby consolidating all organizations responsible for research, development and engineering within the AMC major subordinate commands under one organization. This command is responsible for the technology development efforts which assist the PEOs in getting the Warfighter the right capabilities when needed.

While the realignment of PEO/PMs and the creation of RDECOM enabled the Army to establish direct command and support functions to integrate technologies into Army acquisition programs, the sustainment portion was still separated from the other acquisition functions. It became necessary to implement additional restructuring in order to eliminate the three “stovepiped” communities of technology development, acquisition and sustainment that resulted from the changes made to AMC’s structure.

In 2004, through a memorandum of agreement between the Assistant Secretary of the Army for Acquisition, Logistics, and Technology, The Honorable Claude Bolton, Jr., and the Commanding General of AMC at the time, General Paul Kern, formally initiated a plan for the two organizations to work together to establish life cycle management

⁶⁴ James O. Winbush, Christopher S. Rinaldi, and Antonia R. Giardina. “Life Cycle Management: Integrating Acquisition and Sustainment,” *Army Logistician*, January-February 2005, vol. 37. <http://www.almc.army.mil/alog/issues/JanFeb05/lifecycle.html> (accessed April 21, 2009).

commands (LCMCs). This initiative was approved by then Chief of Staff of the Army, General Peter Schoomaker on August 16, 2004.⁶⁵

This initiative also aligned with General Shinseki's Transformation Plan, to develop a networked system that linked Warfighters at all levels with the sustaining base in order to create a seamless workforce wherein the front line Soldiers could receive technologically advanced capabilities. Sustainment concerns would be integrated into the development and acquisition of weapon systems in order to ensure a high quality continuous support to the Warfighter.⁶⁶

According to the 2008 Army Posture Statement, there are currently four LCMCs aligned along the following commodity lines: 1) tank, automotive and armaments; 2) aviation and missile; 3) communications and electronics; and 4) Joint munitions and lethality. All LCM Commands and PEOs operate under a collaborative partnership and align resources in order to support the Warfighter by providing him with the capabilities he needs. Additionally, the DA-led *Lean Six Sigma* approach is being used to identify, measure, and implement continuous process improvement.⁶⁷

3. Creating Efficiencies

In October 2006, When LTG Ross Thompson assumed his duties as the Military Deputy (MILDEP) to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) and as Director, Acquisition Career Management (DACM), he discovered that only 37 percent of all Army AL&T Workforce members were certified in their position of record.⁶⁸ This discovery was followed by his first memorandum to the acquisition workforce entitled "Director, Army Acquisition Corps (AAC) Guidance Memorandum #1" where he stated,

⁶⁵ Winbush, "Life Cycle Management: Integrating Acquisition and Sustainment," 2.

⁶⁶ U.S. Army TCP, 8, 17-18.

⁶⁷ 2008 U. S. Army Posture Statement. *Life Cycle Management Initiative*. http://www.army.mil/aps/08/information_papers/reset/Life_Cycle_Management_Initiative.html (accessed April 21, 2009).

⁶⁸ N. Ross Thompson, III. "U.S. Army Acquisition Support Center (USAASC) to Launch Certification Management System (CMS)," *Army AL&T Magazine*, April 2007. http://www.usaasc.info/alt_online/article.cfm?iID=0704&aid=11 (accessed June 2, 2009).

We continue to be a great force multiplier for the Army, and I want to make us even more valuable to the Soldiers and families that we support. We must continue to build upon our past efforts to improve our AAC Core Competencies and the development of our workforce. In concert with our strategic partners, we will continually improve how we develop, test, acquire, field and sustain products.

We will focus on developing Military and Civilian Acquisition workforce personnel that are expert, relevant and ready to support the acquisition mission along the full spectrum of military operations from war to defending the Homeland. It is incumbent upon leaders to ensure that people performing missions have the tools and training required for successful execution of their duties. This will allow us to continually improve as a community and enable us to provide unparalleled capabilities to the Soldier in the field.⁶⁹

As previously noted, the Defense Acquisition Workforce Improvement Act (DAWIA) established education and training standards, requirements, and courses for the civilian and military workforce. As per the DOD Desk Guide, Acquisition, Logistics and Technology (AL&T) workforce members are required to be certified in their positions within 24 months of assignment to the position.⁷⁰ Certification is achieved by meeting the mandatory certification standards as set out in the DoD Directive 5000.52, “Defense Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development Program” and available on the Defense Acquisition University website.⁷¹

On October 1, 2007, the United States Army Acquisition Service Center (USAASC) launched a web-based application, the Certification Management System (CMS), whereby acquisition workforce personnel are able to apply for certification of all acquisition position levels within all acquisition career fields. This web-based application for all DAWIA certifications negates the prior method of a paper-intensive application, review, notification and documentation process. Supervisors are now able

⁶⁹ Department of the Army, Office of the Assistant Secretary of the Army, Acquisition, Logistics and Technology Memorandum (December 22, 2006). Director, Army Acquisition Corps (AAC) Guidance Memorandum #1. http://asc.army.mil/docs/policy/AAC_Policy_Memorandum_IDP_Accountability.pdf (accessed June 2, 2009).

⁷⁰ Department of Defense Desk Guide for Acquisition, Technology, and Logistics Workforce, January 10, 2006, 24.

⁷¹ Defense Acquisition University’s iCatalog, Appendix B. (2009). <http://www.dau.mil/catalog/cat2009/appendixb.pdf>. (accessed June 2, 2009).

to view all employees' position certification requirements and completion status in one centralized location as all the DAU requirements are built into the CMS system. The normal 30-60 day approval window is typically reduced to 1-2 days through the web-based site.⁷²

The CMS application can be found on the Career Acquisition Management Portal (CAMP), where the stated purpose is to simplify acquisition career management tools by implementing a single point of entry for the Army acquisition personnel.⁷³ As CMS will rely heavily on the information that is contained within each individual applicant's Acquisition Career Record Brief (ACRB), Officer Record Brief (ORB) or Enlisted Record Brief (ERB), both military and civilian acquisition workforce members must ensure their relevant information is accurate and up-to-date. Also located within the CAMP portal are links to other important acquisition workforce documents such as the Individual Development Plan (IDP), Senior Rater Potential Evaluation (SERP), and the Army Acquisition Professional Development System. LTG Thompson has stated that acquisition workforce members need to take individual responsibility for their own career management.⁷⁴ Within the CAMP portal, many of the applications needed to track and manage one's own career are located in one place.

Additionally, USAASC used IT solutions to increase efficiency and reduce travel costs through the use of virtual award boards for those board members selected to serve on the Army Acquisition Excellence, Project/Product Manager and Acquisition Director of the Year and David Packard Awards boards.⁷⁵

⁷² U.S. Army Acquisition Support Center, Eastern Regional Support Office Briefing entitled, "Acquisition Career Management New Hire Brief." December 9, 2008.
http://asc.army.mil/docs/regions/Acquisition_Workforce_Briefing.pdf (accessed June 2, 2009).

⁷³ Career Acquisition Management Portal. <https://rda.altess.army.mil/camp> (accessed June 2, 2009).

⁷⁴ N. Ross Thompson, III, 1.

⁷⁵ U.S. Army Acquisition Support Center Press Release, "U.S. Army Acquisition Support Center Top Five Achievements for 2007." November 27, 2007.
http://asc.army.mil/docs/press/Top_5_Comments_27NOV07.pdf (accessed June 2, 2009).

D. INCORPORATION OF FLEXIBLE PRACTICES

As early as 2002, the GAO reported that it was imperative that government agencies utilize human capital flexibilities in order to acquire, develop and retain high-quality federal employees.⁷⁶ GAO determined that human capital flexibilities represent the policies and practices that an agency has the authority to implement in managing its workforce to accomplish its mission and achieve its goals.⁷⁷ To deal with acquisition workforce challenges, leadership must assess those flexible practices already in use within the federal government today and determine which ones afford the greatest benefits to their workforce. The GAO has determined those work-life programs, or those programs which allow employees to balance their work and family life in a manner that is mutually beneficial to themselves and their organization, were cited highly effective for recruiting, motivating and retaining their staff.⁷⁸ Adapting one or a variety of flexible practices within an organization will be discussed.

1. Pay Incentives

Probably the greatest incentive across the workforce is the money employees can and potentially will earn. The National Security Personnel System (NSPS), a pay for performance method of determining salaries, makes recognition of this sentiment. NSPS was intended to replace the established General Schedule (GS) pay grade system to allow DoD to better attract, recruit, retain, compensate, reward, and manage its personnel. This pay system was intended to create a civilian workforce that is competency-focused and performance-based. It is designed to be DoD's flexible and responsive civilian management system that will value employees' performance and contributions, encourage communication, support broader skill development, promote excellence in the workplace and to put the right people in the right jobs at the right time. The system was designed to incorporate many best business practices such as focusing on people, performance, and employment decisions that are cost-effective. As stated on the NSPS

⁷⁶ U.S. Government Accountability Report. *Human Capital: Effective Use of Flexibilities Can Assist Agencies in Managing Their Workforces* (GAO Report 03-2, 2002), 2.

⁷⁷ GAO Report 03-2, 2

⁷⁸ Ibid, 3.

Web site, the system is structured to provide “an accountable, more flexible, results-oriented civilian workforce which can more efficiently respond to difficult situations, proactively seek solutions, expand workforce capabilities, improve the capacities of our allies abroad, and strengthen the country’s global posture.”⁷⁹

However, numerous inequities and inconsistencies were noted in how performance ratings, raises, and bonuses were meted out to more than 102,000 employees in January 2009. A *Federal Times* analysis of the data⁸⁰ showed that minorities received lower ratings, raises, and bonuses than white employees. For some groups, the shortfall was significant. Moreover, both raise and bonus payouts did not match with performance ratings for some categories of employees. For instance, black employees had lower performance ratings overall than their Asian-American counterparts, yet blacks received higher raises and bonuses overall. Men and women had identical ratings overall, yet women took home larger payouts on average.

These findings have fueled the debate over whether to continue, overhaul or terminate NSPS. Many opponents cite these inequities as cause for terminating NSPS. They argue that such results should be expected when moving from the General Schedule system, in which everyone gets top performance ratings and equal raises, to one where performance is measured more subjectively, individual by individual. To this end, the DoD and the OPM announced on March 16, 2009, that a comprehensive review would immediately commence. The review will include a thorough examination of all NSPS policies, regulations, and practices.⁸¹ DoD will cease any further conversions to the NSPS system pending the results of the review.

⁷⁹ National Security Personnel System (NSPS) home page.
<http://www.cpms.osd.mil/nsps/whatsnsp.html> (accessed March 29, 2009).

⁸⁰ “Is DoD’s new pay system fair?” Ratings-Payout Mismatches graphics, *Federal Times*, August 10, 2008. http://www.militarytimes.com/static/projects/pages/ft0811_ratingspayout_lzc.pdf (accessed March 29, 2009).

⁸¹ Department of Defense Press Release. “DoD and OPM To Review National Security Personnel System.” March 16, 2009.

The Federal Times polls below show that the present pay for performance programs lack buy-in from a majority of the respondents (62 percent want to keep the GS system), and that many (50 percent) feel their annual ratings do not accurately reflect their performance.

Table 2. GS or Performance Pay. (From: Federal Times, 2008)

Would you rather be paid under the General Schedule or a performance pay system?	Percent	Votes
I get GS pay, but I would rather get Performance Pay.	14 %	213
I get GS pay, and I would like to keep it that way.	62 %	923
I get Performance Pay, and I would like to keep it that way.	8 %	120
I get Performance Pay, but I would rather get GS pay.	16 %	244
Total votes		1500

Table 3. Performance Rating. (From: Federal Times, 2008)

Do you think your last annual performance rating fairly and accurately reflected your performance?	Percent	Votes
Yes	38 %	339
No, it should have been higher	50 %	454
No, it should have been lower	4 %	33
I've not had a performance review in the last 12 months	9 %	78
Total votes		904

A GAO report, released April 1, 2009, states that DoD has taken some steps to employ safeguards in order to ensure that NSPS is fair, credible and effective.⁸² However, GAO further finds that the implementation of three safeguards in particular could be improved. By not utilizing a third party to analyze rating results for anomalies, DoD has no process in place to determine if these ratings are nondiscriminatory before being finalized. Additionally, by not instructing their commands to publish their final rating distributions, DoD lacks the transparency needed to allay employee's beliefs about

⁸² U. S. Government Accountability Office. *Improved Implementation of Safeguards and an Action Plan to Address Employee Concerns Could Increase Employee Acceptance of the National Security Personnel System*. (GAO Report No. 09-464T, 2009); 9.

the fairness of their own ratings in comparison to others within their own command. Finally, NSPS guidance indicates that the majority of employees should be rated at the “3” level, on a scale of 1-5. By not encouraging pay pools and supervisors to use all categories (1-5), NSPS guidance appears to indicate an unspoken forced distribution of ratings, further compounding a lack of confidence in the system.

Research has shown that many federal workers continue to object to the NSPS pay-for-performance model. This concern is summarized below,

Many federal workers strongly object to the NSPS pay-for-performance model. They don’t trust the employee rating system that affects pay raises. Union leaders have targeted it because they feel it would hold down the wages of workers. “NSPS is the biggest affront to the federal workforce in modern history, and it is killing morale within the department,” said Richard N. Brown, president of the National Federation of Federal Employees. “The overwhelming majority of Defense workers despise NSPS. Repealing NSPS is our top legislative priority. We want it gone this year.”⁸³

Pentagon officials have indicated that halting the conversions now really wouldn't mean much since almost all of the workers who would be placed under the NSPS are already there. With the ongoing review of the NSPS pay for performance system, further analysis is being done.

2. Work-Life Programs

Alternative Work Schedules (AWS) are another type of incentive within the federal government. According to OPM, an AWS allows some flexibility from a traditional fixed work schedule of the typical eight hours per day, forty hours per week schedule. AWS has two categories, flexible work schedules (FWS) and compressed work schedules (CWS). For those employees utilizing a FWS, management may agree to allow employees to vary their start and ending hours, as long as they work the required number of hours per day in order to achieve the 80 hour/biweekly total. Those employees who work a CWS will work fewer but longer days, while still maintaining the

⁸³ Joe Davidson, “Pentagon Personnel System Under Attack,” Washington Post, February 20, 2009. http://voices.washingtonpost.com/federal-diary/2009/02/pentagon_personnel_system_under_attack.html (accessed March 31, 2009).

80 hour/biweekly total. Employees may utilize an AWS for various reasons, such as avoiding traffic congestion, fitting into their child care plans or completing personal errands.

Managers who allow their employees to utilize AWS must be willing to accept the challenge of keeping track of a variety of different schedules. The GAO reports numerous instances where this flexibility has increased employee morale and allowed their employees to be more flexible in accomplishing their job responsibilities.

Tables 4 and 5 below list the results of *The Federal Times* government wide readership surveys regarding AWS. Table 4 surveyed for opinions on FWS and Table 5 surveyed for CWS.

Table 4. Flexible Work Schedule (FWS). (From: Federal Times, 2009)

Do you have a flexible schedule at work?	Percent	Votes
Yes, a half day off a week	1 %	9
Yes, one day off a week	6 %	68
Yes, one day off every two weeks	23 %	259
Yes, with some teleworking	7 %	83
No	63%	706
Total votes		1125

Table 5. Compressed Work Schedule. (From: Federal Times, 2009)

If given the opportunity, would you prefer to work four days (10 hours each) instead of five days a week?	Percent	Votes
Yes	75 %	1437
No, the nature of my work won't allow a four-day week	7 %	141
No, my family responsibilities wouldn't allow it	8 %	149
I already work an alternative schedule	10 %	184
Total votes		1911

The survey results indicate that roughly 37 percent of the respondents participate in some form of AWS, and that 75 percent would favor a four day, ten hour per day work week.

An example of where AWS is being used as an incentive is at Fort Belvoir, VA. The Fort Belvoir installation commander has established a goal of reducing the amount of single-occupancy vehicles by 10 percent over the next two years. In order to achieve that goal, AWS has been put forward as one of five measures to be considered and is being promoted through local organizations in order to reduce traffic. The remaining four measures are teleworking, which will be discussed later in this chapter, RideShare Web sites, and internal and external shuttles. With the initial interest shown in AWS and teleworking, the Fort Belvoir installation is now developing policies for those two measures for tenant units and agencies. The next steps in promoting the goal of reducing single-occupancy vehicles reportedly will be policy education and the encouragement of post leadership to gain participation.⁸⁴

3. Quality of Life

In October 2001, DoD established a Telework Policy and Guide pursuant to Public Law 106-346, Section 359, whereby the intent was to advocate telework as a flexible practice for both managers and eligible employees throughout DoD. The DoD Telework Policy further mandated that 25 percent of the eligible Federal workforce must be offered the opportunity to telework, while an additional 25 percent of the eligible Federal workforce must be offered the opportunity to telework each successive year, thus permitting every eligible employee the opportunity to telework by the end of Fiscal Year 2004.⁸⁵ The policy was designed to actively promote telework as a legitimate DoD flexible practice for managers and their employees, thereby enabling the recruitment and retention of high-quality employees through quality of life enhancements. The policy

⁸⁴ Andrew Sharbel, "Belvoir seeks 'Green' Ideas for Transportation Management," Belvoir Eagle, March 12, 2009. http://www.belvoireagle.com/index.php/belvoir/news-articles/belvoir_seeks_green_ideas_for_transportation_management/ (accessed March 31, 2009).

⁸⁵ Department of Defense Memorandum (October 22, 2001). DoD Telework Policy and Guide. http://www.cpms.osd.mil/ASSETS/92F08E3F24044BFD984619714025BD13/policy_guide.pdf (accessed March 29, 2009).

would also afford the accommodation of people with disabilities, or those with continuing or temporary health problems, such as the flu. Further cost savings would be realized through the reduction of traffic congestion and decreased energy consumption and pollution emissions, the reduction in office space, parking facilities, and transportation costs, including costs associated with payment of a transit subsidy, and to complement Continuity of Operations Program (COOP) plans.

The House and the Senate each continue to pass separate bills, the latest in 2008, in an attempt to strengthen the original law and make it possible for more federal employees to telework. The latest bill would utilize a formula whereby eligible employees would be permitted to telework at least 20 percent of the hours they worked in every two workweeks. This formula change would also allow eligible AWS employees to telework.⁸⁶ Eligibility for teleworking would be determined by individual agencies and those employees who handle classified information, have daily face-to-face contact with the public, or must utilize certain equipment to perform their jobs could be denied this benefit. To date, neither of these bills has been passed into law.

While some federal agencies are seen as encouraging to teleworkers and have seen no decline in productivity, teleworking may still be resisted by many other federal managers. Managers are concerned with communication and equipment issues and contend that their offices may not be able to respond effectively to immediate work requests.

In a December 17, 2007 Commentary in *Federal Times*, Deborah S. Cohn, then acting chief administrative officer of the U.S. Patent and Trademark Office (PTO) stated that as a decades old business strategy, teleworking has been very successful for the agency, the employees and the American economy, citing many of the benefits already discussed. In Oct 2007, 40.7 percent of the total PTO work force and 45.7 percent of the total eligible employees were participating in some form of telework, making this telework program among the largest and most progressive within the federal government. According to the Telework Exchange estimates, PTO employees who telework

⁸⁶ Stephen Barr, "Telework Bill Cleared by the House," <http://www.washingtonpost.com/wp-dyn/content/article/2008/06/03/AR2008060303454.html> (accessed April 21, 2009).

collectively save more than 613,000 gallons of gas, which translates into \$1.8 million savings in fuel costs and reduce emissions by more than 9,600 tons.

Several surveys addressing telework have been conducted by *Federal Times*. Table 6 illustrates that more than two-thirds of respondents to a recent survey indicated that no one has teleworked at their office within the last five years. Table 7 indicates some teleworking obstacles, with management acceptance possibly being the key. It is evident that acceptance of teleworking has a long way to go. In the meantime, Congress can continue to enact the governing rules and enforce implementation goals.

Table 6. Teleworking—Last 5 Years. (From: Federal Times, 2008)

What impact, if any, has teleworking had in your office in the last five years?	Percent	Votes
The teleworking we've had works well	19 %	138
The teleworking we've had has not worked well	5 %	37
It's too early to tell the impact of teleworking	7 %	52
No one teleworks at my office	68 %	487
Total votes		714

Table 7. Teleworking Obstacles. (From: Federal Times, 2008)

What is the biggest obstacle to your teleworking?	Percent	Votes
Job requirements	28 %	177
Lack of permission from manager	59 %	372
Lack of equipment at home	7 %	46
No convenient telework center	5 %	34
Total votes		629

4. Educational Opportunities

Advancement opportunities for members of the acquisition workforce are being fostered broadly, in one respect, by increases in educational opportunities. Continuing education is one area emphasized in the 1990 DAWIA, which was enacted in part to improve the effectiveness of the civilian and military acquisition workforce through

enhanced education, training, and career development. Certification in an acquisition position is a workforce quality indicator. Fifty-six percent of the DoD acquisition workforce has met their position certification requirements (Appendix). As baby boomers depart, managers may be challenged to ensure remaining workforce members are afforded the opportunity to reach their specific certification levels.

The Office of Federal Procurement Policy's Administrator, Paul Denett, told a Senate subcommittee in February 2008 that the administration has made strides in this area to strengthen the acquisition workforce. New certification programs for contracting officers, program managers and contracting officer technical representatives have been put in place which will help to standardize training and experience levels. Karen Pica, director of the Federal Acquisition Institute, and Frank Anderson Jr., president of the Defense Acquisition University (DAU), testified that the three-year-old partnership between the two institutions has significantly benefited the training, recruitment and retention of the acquisition workforce, citing a 529 percent increase in the number of people graduating from DAU's certification training programs since 2005. According to the DAU Human Capital Fact Sheet, Appendix, as of September 30, 2007, 56 percent of the entire Defense acquisition workforce had reached their position level certification requirement.

Another development has been the Army acquisition workforces' affiliation with the Naval Postgraduate School (NPS). The Army took over as the sponsor for the resident acquisition program in the early 1990's and initiated the Master of Science in Program Management (MSPM) in 1999 via video teleconference (VTC).⁸⁷ Beginning in 2007, this course of study was further expanded to include delivery over the Internet, using a web-conferencing tool called Elluminate. As explained on the NPS website, these classes afford the students the opportunity to participate from their home command location, providing the student the ability to maintain their current position while attaining this career-enhancing degree. This distance learning program has provided opportunities not previously available to DA personnel, and may serve as a model for other non-resident education curricula.

⁸⁷ Brad Naegle, e-mail message to author, June 2, 2009.

E. FOSTERING OF DIVERSITY

Diversity includes creating a workforce which is reflective of society and provides opportunities for all. It also allows bringing people into the workforce with diverse backgrounds who are then educated and trained to work within the acquisition system. Furthermore, a system may gain strength by having a people with a diversity of experiences. Older, more experienced people can provide mentorship and leadership for the newer members of the acquisition workforce. An obvious premise is that younger, entry level people must be recruited in order to breathe vitality into a complex system, including bringing new ideas, methods and technology savvy.

The Army's acquisition workforce leadership has aligned itself with the Office of Personnel Management's 2006-2010 Strategic and Operational Plan, which includes a demographic outlook/assessment as one of its operational goals. It states, "Demographic factors external to the agency impact the achievement of our goals ... we anticipate an increase in the number of veterans and diversity in the workforce."⁸⁸

DA, in conjunction with DoD, continually assesses the state of the acquisition workforce. One aspect of this has been an analysis of the generational composition of the workforce. Today's DoD AT&L workforce consists of at least four distinct generations: the silent generation, the baby boomers, Generation X, and Generation Y.⁸⁹

⁸⁸ United States Office of Personnel Management, Strategic and Operational Plan, 2006-2010, 27.

⁸⁹ DoD AT&L Human Capital Strategic Plan, 9.

Table 8. AT&L Workforce by Generation. (From DoD, 2007)

Generation	National* (2005)		DOD** (2006)		Civilian AT&L Workforce*** (2006)	
	Workforce (millions)	% Workforce	Workforce	% Workforce	Workforce	% Workforce
Silent Generation (born before 1946)	11.5	7.5%	45,625	6.7%	8,322	7.4%
Baby Boomers (1946-1964)	61.5	42.0%	438,971	64.5%	77,729	68.7%
Generation X (1965-1976)	43.5	29.5%	132,948	19.5%	17,581	15.5%
Generation Y (1977-1989)	31.5	21.0%	62,676	9.2%	9,394	8.3%
Millennium (1990-present)	51	0%	153	0%	0	0%
		100%		100%	113,026	100%

Notes: *Source: Amour, Stephanie "Generation Y They've Arrived at Work with a New Attitude." USA Today, November 7, 2005, pp.18-28

**Source: DMDC DoD Civilian Workforce Count for September 2006.

***Source: DMDC FY06 AT&L Workforce Count/AT&L workforce data contains 87 files with null for age.

Each generation has distinct characteristics (table 6) that identify them within the workforce, with the most differences being found between the baby boomers and the Gen X and Gen Y workers. Baby boomers tend to be defined by their work and generally have a "do what it takes" outlook about their work. The Gen X and Gen Y workers tend to desire their lifestyle be balanced between their work and their personal life, i.e., defined by a "work to live" attitude. Baby boomers tend to feel more loyalty towards their employers, while until the global economic crisis, Gen X and Gen Y workers rarely experienced unemployment and constantly sought advancement even if it meant job hopping. As younger workers grew up with instant access to information through the Internet and cable TV, they may expect their employers to offer the same type of environment.

Some of these differences can be attributed to each groups' career stage. The silent generation and the baby boomers are looking forward to retirement, and are more concerned with their financial independence, health care and pension plans. The Gen X and Y workforce are focusing on increasing their marketable skills in order to prepare themselves for future opportunities. While the current global economic crisis has had all workforce members readjust their priorities concerning their employment, leadership can

struggle to understand the differences in attitudes and work ethics each generation brings to their job. Doing so may further enhance workforce recruitment, development and retention strategies.

Table 9. Generational Differences in the U.S. Workforce. (From: DoD, 2007)

	Silent	Baby Boomer	Generation X	Generation Y
Preferred Work Environment	• Promotions come with seniority • Younger workers should pay their dues • Value Sacrifice, conformity, and patience	• Love to have meetings • Job Security • Learn technology • Position = respect • Younger workers should pay their dues • Value “face time”	• Fun environment • Use technology • Internal mobility • Flexible schedules • Peers do not equal family • Changing challenges and responsibilities	• Fun environment • Assume technology • Internal mobility • Flexible schedules • Peers equal family • Expect bosses to assist and mentor
Motivated by...	• Satisfaction is a job well done • Being respected	• Advancement • Title recognition • Being valued and needed • Money	• Freedom • Removal of rules • Continuous learning • Time off • Money	• Meaningful work • Working with bright people • Increased responsibility • Time off • Money

The retention focus is on the impending baby boomer gap,⁹⁰ pursuant to the Office of Federal Procurement’s Policy recommendation that agencies need to create and use incentives for qualified senior, experienced acquisition workforce personnel to remain in the acquisition workforce. "With every new retiree, the government is losing important institutional knowledge," said Sen. Daniel Akaka, D-Hawaii. "The government must act aggressively now in analyzing acquisition workforce trends so that a brain drain does not develop. . ."⁹¹

As seen in figure 4 below, as the entire U.S. labor force ages, the expected growth rate for those individuals aged 45 years and older is anticipated to be over 13 million compared to the growth rate of 1.7 million for those aged 44 and below. This is due

⁹⁰ Review of Defense Acquisition Structures and Capabilities, June 2007, 3-22.

⁹¹ Statement at February 14, 2008, Subcommittee on Oversight Government Management, The Federal Workforce and the District of Columbia Committee on Homeland Security and Governmental Affairs, US Senate.

primarily to the aging of the baby boomer population, who now make up almost 70 percent of our current DoD acquisition workforce. As the older workforce moves through their organizations, they increasingly approach eligible retirement. This may produce gaps in leadership positions which must be filled by those from the younger age groups. Leaders must come up with innovative recruitment, development and retention strategies to hire and keep this smaller replacement population of Gen X, Y and Millennium groups. The Army acquisition workforce finds itself faced with this challenge.

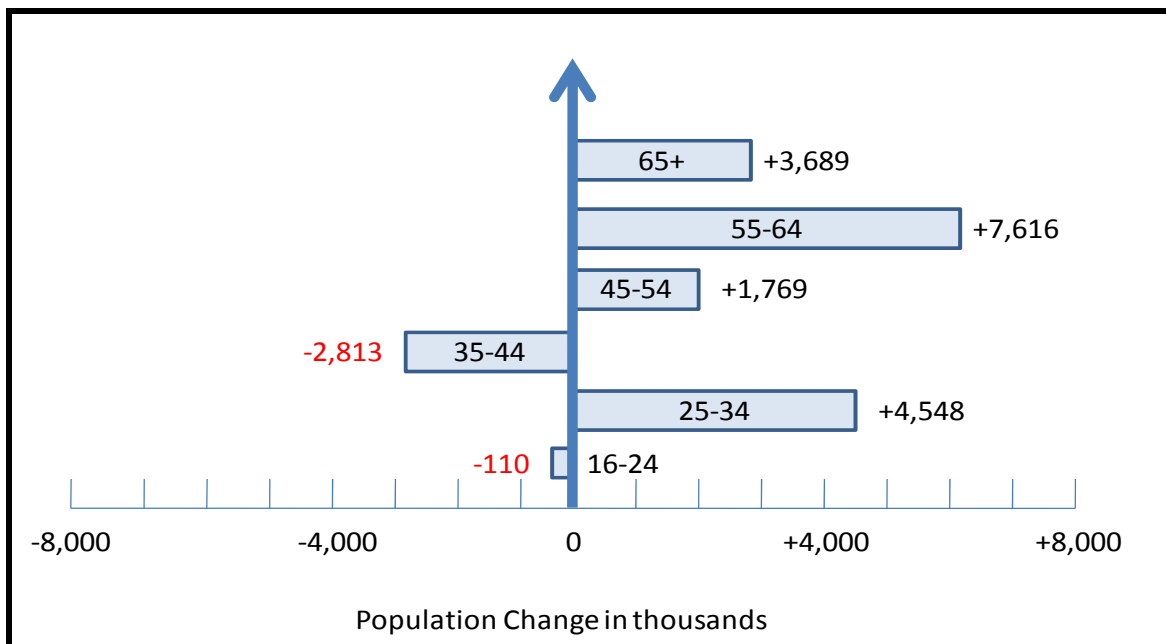


Figure 5. Change in Labor Force by Age, Projected 2004-2014. (From: DoD AT&L Human Capital Strategic Plan, 2007)

1. Targeting Older Workers

DoD also uses retired military officers as an alternative source to fill the more senior civilian ranks. As the military tends to provide more education, training and leadership opportunities, retired service members are often viewed as highly qualified. There was an increase in the number of retired service members pursuing civilian jobs in Defense after 2003, when former Defense Secretary Donald Rumsfeld waived a rule that forced retirees to wait six months before they could take a civilian DoD job. Retirees were also more amenable to working for DoD after a 1999 law ended the so-called dual-

compensation penalty at Defense. Retirees who work within DoD are now able to draw both their full annuities and salaries; previously their salaries were docked. Retired military at Defense's GS-14, GS-15 and senior executive levels ranged from 12 percent to 16 percent in 2003. The range has now increased from 20 percent to 26 percent. There has also been an increase in the rate of retired military who are promoted to SES. In 2003, 16 percent of SES promotions went to retired military; by 2007, retired military promotions reached 19 percent.⁹²

As baby boomers may be more concerned with their financial independence, health care and pension plans, the current global economic crisis may encourage some retired federal workers to return to federal employment. There are several issues concerning retired federal workers which may need to be sorted out before the retired talent would come back. Current federal law requires rehired employees' pay to be cut by the amount of their pension. Legislation allowing rehired federal workers to work part-time without losing that pension is being put forward by Herb Kohl (D-Wis.) and Susan Collins (R-Maine). However, worker's retirement benefits would not grow based on this additional part-time employment. "Giving the government the flexibility to call on retired federal workers will help slow the government's impending brain drain," Kohl said. "This bill will ensure that our most experienced federal employees will be paid fairly for their continued contributions."⁹³ As of this writing, this Senate bill is still being considered at the committee level.

Several other initiatives could also benefit both the government and those federal workers approaching retirement. In a bill sponsored by Kohl and Sen. George V. Voinovich (R-Ohio), those federal employees who fall under the Civil Service Retirement System (CSRS) could chose to work part-time as they near the end of their federal service without losing their total CSRS annuities. The annuities would be prorated for that term of part-time employment. This would enable the government some stability

⁹² Losey, Steven. "At DoD, retired officers gaining edge in hiring." *Federal Times*, July 27, 2008. <http://www.federaltimes.com/index.php?S=3644523> (accessed March 18, 2009).

⁹³ Joe Davidson "How to Address the Federal Brain Drain? Focus On Those Seniors," *Washington Post* February 25, 2009. http://voices.washingtonpost.com/federal-diary/2009/02/how_to_address_the_federal_bra.html (accessed March 8, 2009).

in their succession planning by retaining retiring workers who find a full time schedule too demanding. Their expertise would still be available as they mentored the incoming federal workers. At this writing, this issue is also being considered at the Senate committee level.

As baby boomers are concerned with their financial independence and their pension plans, another flexible practice which the federal government affords its employees is The Thrift Savings Plan (TSP). TSP is the retirement savings and investment plan established by Congress in the Federal Employees' Retirement System (FERS Act of 1986). TSP was designed to offer Federal employees the same type of retirement income as private companies offer to their employees within their traditional individual retirement accounts—401(k) plans. Federal employees are afforded the opportunity to invest an amount determined annually by the Internal Revenue Code into six major investment funds. Recent changes now include “catch up” contributions for employees over 50. All contributions are tax deferred, just like the 401(k) plans. There has been some interest in allowing a TSP option for a “Roth” type investment, which pays the tax up front, but does not tax withdrawals.

Some of the more financially savvy investors had previously been making numerous transactions, known as interfund transfers (IFTs) in an effort to time the stock market.⁹⁴ These actions caused additional administrative financial charges to the TSP managers, so measures were taken to limit the number of transfers per month. The current regulations allow the first two IFTs to be redistributed among any or all of the TSP funds. After that, for the remainder of the month, IFTs can only move money into the Government Securities Investment (G) Fund.

The below surveys by *Federal Times* reflect the employees preferences regarding these TSP rules. From the number of respondents in each of the surveys, one can conclude that long term financial independence is very important. The overwhelming majority of those respondents to the TSP survey are in favor of adding the Roth 401(k) option to the TSP. Additionally, 63 percent of those who responded to a survey on fund

⁹⁴ “Speed Limits for the TSP?” Federal News Radio, March 13, 2008.
<http://www.federalnewsradio.com/?nid=22&sid=1238113> (accessed March 21, 2009).

transfers feel that the government should not restrict the number of fund transfers a worker makes. However, this is also a cautious group, with 63 percent of those surveyed claiming they had not and do not plan to trade funds in their TSP accounts in light of the recent downturn in the market.

Table 10. Roth 401(k). (From: Federal Times, 2009)

Do you think a Roth 401(k) option should be added to the Thrift Savings Plan?	Percent	Votes
Yes	84 %	2069
No	16 %	401
Total votes		2470

Table 11. TSP Fund Transfers. (From: Federal Times, 2009)

Should the Thrift Savings Plan limit the number of fund transfers investors can make?	Percent	Votes
Yes, to 2 per month as planned.	10 %	399
Yes, but more than 2 per month should be allowed.	7 %	305
No, but those transferring money should pay fees to cover transfer costs.	20 %	798
No, unlimited free transfers should continue.	63 %	2570
Total votes		4072

Table 12. TSP Fund Trades. (From: Federal Times, 2009)

Did you or will you trade funds in your TSP account in response to the recent stock market downturn?	Percent	Votes
Yes, toward more aggressive funds	9 %	97
Yes, toward more conservative funds	24 %	269
No	67 %	746
Total votes		1112

2. Targeting Entry Level Workers

In order to refill the ranks of the workforce as the expected attrition rates of the older generation rise, the federal government has utilized several hiring practices to

attract younger workforce members. Three practices authorized by 5 United States Code 5753 and 5754, *Recruitment, Relocation, and Retention Incentives*, will be examined in this report. These three incentives, known as the three R's, are designed to provide a monetary incentive for an individual or group to accept employment have been used to attract younger workers and to bridge the pay gap between Federal and private-sector salaries. These practices can also be used to provide incentives for current workforce members to remain employed in the Federal service in a current position(s).

According to an Office of Personnel Management report to Congress,⁹⁵ DoD saw a 34 percent increase in the number of employees receiving student loan repayment benefits in FY07 over the previous year. During that time period, DoD paid out nearly \$6.3 million in these benefits to 1,860 employees. Of that number, 871 employees were in engineering positions, with 262 mechanical engineers, 166 nuclear engineers, 100 electronics engineers, and 72 electrical engineers receiving this incentive. This also accounted for a 37 percent increase in the total amount of student loan repayment benefits provided. Engineers who received student loan repayment benefits include. DoD also provided student loan repayment benefits to 109 contract specialists and 75 information technology specialists. In light of some of the issues which have manifested themselves during our current contingency operations, attracting a workforce in these last two specialties may provide some much needed help. At DoD, the student loan repayment program is considered to be a useful and effective human capital management tool as it enables recruitment and retention of the workforce.

DoD has also found success in attracting entry level members through the use of their intern program. DoD's intern programs are slightly different than those offered through the private industry, which tend to be of a temporary nature. DoD offers two variations of intern programs. Their summer-hire program offers full-time jobs for students from the end of May to typically the middle of August. This time frame allows

⁹⁵ United States Office of Personnel Management Report to Congress, "*Federal Student Loan Repayment Program Fiscal Year 2007*." (May 2008). <http://www.opm.gov/oca/pay/studentloan/html/FY2007StudentLoanRepaymentReport.pdf> (accessed April 18, 2009).

students to complete their current year of college and work the majority of the summer until the beginning of their next school year. They may be converted to a permanent intern program after graduation.

In July 2000, President Clinton authorized the Defense Career Intern Program (DCIP) as a tool to attract exceptional men and women to the Federal workforce who have diverse professional experiences, academic training, and competencies. DCIP is designed to be a noncompetitive recruitment program, where hiring managers directly recruit individuals without publicly advertised the positions. DCIP interns typically undergo a two-year internship beginning at grade levels GS-5, 7, or 9 and may be promoted up to target grades of GS-11, 12 and 13. Each intern completes a formal training and development program, consisting of on-the-job and classroom training for their position. Upon successful completion of their internship, the intern is noncompetitively converted to permanent appointments. Additionally, those interns who are US citizens may see their position converted to a career or a career-conditional appointment within the DoD at the completion of the program.

Some of the intern positions require mobility statements, whereby an intern could be trained in one location, but once training is complete, may be moved to where there is a need for their position. Depending on the position, some interns may be deployed overseas if there is a need.

As indicated, recruitment, relocation, and retention incentives can be and are utilized to keep members of the current workforce employed in their current positions.⁹⁶

On December 3, 2007, OPM issued a memorandum for Chief Human Capital Officers requesting agencies to submit a report on their use of recruitment, relocation, and retention incentives in calendar year 2007. The memorandum requested agencies to report information as a single entity; therefore, data in the report was not broken out by sub agency. OPM did invite agencies to comment on any barriers they faced in using these incentives as human capital flexibilities.

⁹⁶ Information for this area was obtained from The Office of Personnel Management's (OPM's) Recruitment, Relocation, and Retention Incentives Calendar Year 2007 Report to the Congress Presented in September 2008.

Overall, 41 Federal agencies paid 32,484 recruitment, relocation, and retention incentives worth more than \$207 million, with an average incentive payment of \$6,394 during calendar year 2007. This was comprised of 7,716 recruitment incentives totaling over \$57.5 million (average payment of \$7,454); 1,974 relocation incentives totaling more than \$23.1 million (average payment of \$11,735); and 22,794 retention incentives totaling over \$127 million (average payment of \$5,573). Agencies consistently reported using the incentives to accomplish strategic human capital goals.

Defense and Veterans Affairs were by far the largest users—Defense paid 16,184 incentives totaling \$100,280,802. Retention incentives enabled Defense to retain already trained, valued employees and negate the need to go through the lengthy recruitment process. Retention incentives were paid to employees in fifty-three pay plans besides the GS pay plan. Also, more than 12 percent of retention incentives were paid to Defense employees in NSPS pay plans. Individual bonuses in engineering ranged from \$5,000 to \$11,000, and contracting was \$5,000 to \$8,500, with the average incentive reported as \$5,172.

DoD AT&L is working in partnership with the NSPS PEO to develop an Accelerated Compensation Development Program to encompass pay bands 2 and 3. This will allow more flexibility in performance awards, as it will increase the upper bound limit.⁹⁷

The recruitment incentives enhanced Defense efforts in recruiting for hard-to-fill occupations. A number of examples illustrate the effectiveness of the recruitment, relocation, and retention authorities. Recruitment incentives appealed to graduating students from top colleges in the nation for difficult-to-fill intern positions, as well as attracting candidates in information technology (IT), financial management, air traffic control, and safety management to hard-to-fill positions, especially those overseas. Recruitment incentives for linguists and police officers are now addressing a Defense need to significantly increase those skill populations. They have also proven effective for filling positions in occupations requiring position education, such as auditors and

⁹⁷ DoD AT&L Human Capital Strategic Plan, 6.

accountants. Some recruitment incentives offset the high cost of housing in metropolitan areas, and have proven vital to staffing efforts in the Balkans and re-basing efforts in the European theater.

F. GLOBAL AND INTERNATIONAL TRENDS

As the world has moved towards a more global marketplace, organizations are challenged to develop cross-cultural communication skills to adapt to global business transactions. Managers who acquire and excel at using these skills may succeed in advancing diversity sensitivity within their own organizations. The Army's AT&L leadership recognizes the importance of this and addresses it in its Strategic Plan saying, "Significant technological advancements during the 20th century have driven changes in countries around the world. This is having a profound effect on both the U.S. economy and its military."⁹⁸

1. Interdependence of Governments

As with the rest of the Army, the acquisition workforce is striving to adapt to a changing world. Personnel are learning to work and live in environments that are increasingly complex with a greater mix of uniformed military, civilian, foreign nationals from third party countries and host nation individuals and organizations. They must be trained and ready to engage the world with an appreciation of diverse cultures and to communicate directly with local populations.

Operations since the end of the Cold War in places such as Bosnia, Haiti, Iraq, Afghanistan and relief operations in Indonesia provide ample evidence of this new environment. In each of these operations, we have seen an increase in the number of contractors employed to support tasks and even whole missions that were once the exclusive purview of the uniformed military. The Army Contracting Corps has seen requirements expanded exponentially as a result and in the early stages of the large missions in Iraq and Afghanistan been challenged to respond. As we have previously discussed, this has resulted in a partial transformation of the Army Contracting Agency,

⁹⁸ DoD AT&L Human Capital Strategic Plan, 6.

reflecting many of *The “New” Organization* characteristics. Still, a requirement for virtually building cities in the desert to support combat operations in an austere environment has stressed our capabilities to the limit. We find that a combat force of 150,000 requires a contracted support force of almost the same number. The burden for providing this support has fallen to the Army Contracting Command.

Operations in distant locations around the world also stress the supply lines that the acquisition workforce must support. Experts in systems and other acquisition functions must deploy to these combat locations providing on-site support to the Warfighter. This requirement may be beyond the capabilities of the workforce to support.

2. Cross-Cultural Communication Skills

In light of the current conflicts in Iraq and Afghanistan, the House Armed Services Subcommittee (HASC) on Oversight and Investigations released a study in November 2008 looking at how well the DoD has brought the language and cultural competency of our Warfighters to the forefront. Their results indicate that some action has been taken. DoD issued DoD Directive 5160.41E, *Defense Language Program*, and the Chairman of the Joint Chiefs of Staff issued Instruction 3126.01, *Language and Regional Expertise Planning*. The directive establishes as DoD policy that “[f]oreign language and regional expertise be considered critical competencies essential to the DoD mission.”⁹⁹ The Army’s goal is to achieve a “balanced” set of cultural and foreign language competencies for its Soldiers and its leaders, and an Army with all units having the “right blend” of cultural and foreign language capabilities.¹⁰⁰ To that end, the Army is still drafting their strategy, *Culture and Foreign Language Strategy*, but with the ever changing global conflicts, projecting what culture and languages may be needed in the future is difficult.

⁹⁹ Department of Defense Directive 5160.41E, “Defense Language Program,” 21 October 2005, 5.

¹⁰⁰ Testimony of Brigadier General Richard C. Longo, Senior Language Authority, United States Army Before the United States House Armed Services Committee Oversight and Investigations Committee, 110th Cong., 2nd sess., 2008, 5. http://armedservices.house.gov/pdfs/OI091008/Longo_Testimony091008.pdf (accessed April 18, 2009).

3. Shift of Highly Skilled Workers

With globalization, those nations that can best create, develop and enhance their human resource talents may experience a competitive advantage, especially in technology areas. The United States has seen a decline in the number of science and engineering doctoral degrees in the last 10 years, due to foreign students who have chosen to continue their schooling in their native countries. The U.S. produced 15 percent of the world's engineering doctorates in 2002, with the foreign students on temporary visas, earning more than half of these degrees.¹⁰¹ With an increased emphasis in Asian countries on science and engineering training and degrees, the number of foreign students who remain and work in the United States after completing advanced schooling has decreased.

Retaining personnel in the science and engineering fields of the acquisition workforce is more challenging, as the entire defense industry is competing for talent in order to maintain their current and projected workforce requirements. As the highly skilled and educated Baby Boomer generation retires, that skill level leaves the defense industry, both Government and private. Additionally, global competition for technical talent continues to increase. Japan requires a significant number of technically proficient experts to enhance and maintain their industrial base and actively import large numbers of Asian scientists and engineers, many trained in the United States. In addition, other industrial nations are now instituting immigrant-friendly policies for those with advanced science and engineering degrees.

One bright spot in light of the current economic crisis has been that many economists believe that a strong federal work force may enable economic recovery. Additionally, a recent Gallup poll¹⁰² indicated DoD enjoys high name recognition, due in part to focusing on the unique advantages AT&L provides to the nation and our standing within the global environment. These advantages include delivering capabilities that directly equip a Warfighting military around the world. Efforts include developing

¹⁰¹ DoD AT&L Human Capital Strategic Plan, 6.

¹⁰² DoD AT&L Human Capital Strategic Plan, 12.

world-class, advanced technologies, providing high levels of program management responsibilities not typically seen in industry, and offering other intangible satisfactions that stem from being a part of the best military community in the world.

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IV. DATA ANALYSIS

A. INTRODUCTION

Developing a clear idea of the relationship between characteristics of *The “New” Organization* and the design, functioning and performance of selected acquisition areas and programs described in the prior chapter is challenging and exploratory due to the number and complexity of interacting variables, e.g., political, socio-economic, technological. To that end, this chapter analyzes the extent to which selected Army acquisition areas and programs are reflective of the characteristics of *The “New” Organization* including: 1) reliance on networks, 2) application of flatter (leaner) structures, 3) incorporation of more flexible practices, 4) fostering of diversity, and 5) global and international trends.

B. OVERALL ASSESSMENT

For each of *The “New” Organization* characteristics, we have developed an overall assessment of the degree to which the current acquisition workforce areas and programs are perceived to have transitioned to new configurations. Assessments are based on the researched areas, and the extent to which the acquisition workforce overall reflects a shift towards the new characteristics (or not). We are not automatically equating transition into new areas as necessarily good or bad, because degree of fit is often situationally contingent. However, on net, organizations reflecting the five characteristics may be more efficient and effective. Second, we have developed an assessment system which is subjective, yet informed, using a mix of qualitative and quantitative factors.

For the assessments, we selected a scale from A to F based on a set of criteria presented in Table 13. It is important to reinforce that these ratings are analyzing the degree to which the Army acquisition workforce is perceived to have shifted towards “*New*” *Organization* features. An inherent assumption is that this comparative framework can provide a vehicle for understanding Acquisition changes in light of how other organizations are adapting their structures to fit 21st century environmental factors

and forces. Therefore, we are not attempting to provide a grade for the acquisition workforce’s overall performance, but rather a grade on extent of transition to an alternative framework.

Table 13. Assessment Ratings (From: Hill and Gerstein, Authors, 2009)

Rating	Assessment
A	The tenets of <i>The “New” Organization</i> are being <u>fully</u> implemented
B	The tenets of <i>The “New” Organization</i> are <u>mostly</u> being implemented
C	The tenets of <i>The “New” Organization</i> are being <u>partially</u> implemented
D	The tenets of <i>The “New” Organization</i> are <u>not being effectively implemented</u>
F	The tenets of <i>The “New” Organization</i> are <u>not being implemented at all</u>

As we develop these assessments, it is useful to note that our methodology began with describing characteristics of *The “New” Organization* in Chapter 2, followed by description of selected Army acquisition areas and/or projects related to these new features. This chapter analyzes perceived extent of implementation that may be associated with the new organizational features. Ultimately, we draw conclusions on extent of transition, and make recommendations for improving Army acquisition workforce performance relative to the new features. Overall assessments within each of the framework characteristics are provided in Table 14.

Table 14. Assessments (From: Hill and Gerstein, Authors, 2009)

<i>The “New” Organization Characteristic</i>	Assessment	Rationale
Reliance on networks	B	• Many Army acquisition workforce areas and projects definitely reflect the use of networks, i.e., improving effectiveness and efficiency. • Some virtual collaboration is observable, e.g., PBUSE depicts a positive example. More could be done considering non-DoD examples of Twitter and Facebook that are transforming how the world communicates and integrates through networking. • This reliance on networks and the efficiencies to be gleaned from this technology has been extended directly to the workforce through the automated CMS tracking of the acquisition workforce individual qualifications.
Application of flatter (leaner) structures	B+	• Near Army-wide recognition of the need to rely on flatter, leaner structures, including the acquisition workforce. • Gansler report makes these recommendations within the contracting specialty and these provisions are being incorporated, e.g., establishment of RDECOM exemplifies progress in this area. • The move to flatter organizations and cross-functional teams does not appear to be consistent throughout the acquisition workforce.
Incorporation of more flexible practices	C	• NSPS can assist in providing opportunities by way of “pay for performance” which should be attractive for Generation X and Y personnel, however, there is generally acknowledged “doubt” that NSPS ratings accurately reflect performance. A gap between ratings and perceived performance could be crucial for developing and retaining cohort members. • Work-life programs such as alternative work schedules have been recognized as potential solutions; however these programs are not widely accepted within the acquisition workforce. Generally, workers like these new practices, but managers remain skeptical. • Quality of life enhancements are not widely accepted in the acquisition workforce. General programs to improve the working environment have been incorporated, however in telecommuting, little has been done. • Telecommuting is available to some. Most do not have this flexibility and managers are skeptical about being able to get productive work out of a more distributed workforce. • There has been a major push to improve the education of the civilian workforce through the DAWIA program.

<i>The “New” Organization Characteristic</i>	Assessment	Rationale
		This emphasis has been largely successful for education and training from professional development courses to degree producing programs.
Fostering of diversity	C-	• This focus on diversity pertains deliberately to the growing age-gap issue (not race or gender). • Little evidence observable to account for differences in generations, nor to adjust to the characteristics of each unique population, e.g., baby boomers have different goals and objectives than Gen X/Y personnel. • While all members of the workforce will be interested in benefits such as TSP, fund transfers and Roth IRAs, these issues appear more important for older workers. Acquisition workforce has been given the same opportunities as those throughout the rest of the federal workforce. • Entry level personnel are often interested in having student loans paid off. Incentives have been put into law which allow for these recruiting and retention programs. • Providing continuing education through certification courses and degree producing programs is a useful tool in recruiting and retaining quality entry level workers. Intern programs are useful recruiting tools.
Global and international trends	C-	• An area requiring considerable attention in a 21st century world. • Operations since the end of the Cold War in places such as Haiti, Bosnia, Kosovo, Iraq and Afghanistan have reinforced the need to have a global workforce. • Several highly visible missteps in contracting were described in the Gansler report. • Greater cultural sensitivity and language ability can only make the federal workforce more adept at international operations, i.e., interfacing with local populations and businesses are the foreseeable future in supporting Warfighter missions ranging from humanitarian operations to peace and stability operations to combat.

V. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

The acquisition workforce is an essential supporting element of the overall Army acquisition strategy. Much can be done to bring procurement organizations and personnel into a changing 21st century, including concepts associated with *The “New” Organization* features.

This chapter is broken down into three major sections. The first examines the primary and subsidiary research questions, providing a brief overview answer for each. The second section provides conclusions for each of *The “New” Organization* characteristics concerning the degree to which the Army acquisition workforce appears to have transitioned towards this new construct. The third and final section provides recommendations derived from the analysis and conclusions.

B. RESEARCH QUESTIONS

1. Primary Research Question

What is the current status of U.S. Army acquisition primarily in terms of personnel loss and degradation of associated, required and emerging capabilities, i.e., what is the relationship between characteristics of *The “New” Organization* and the design, functioning and performance of Army acquisition?

The “New” Organization construct provides a useful approach for examining the Army acquisition workforce which is already moving tentatively towards flatter, networked and more diverse organizations. At the organizational level, we see substantial movement towards use of networks and towards flatter, leaner structures. The same progress is not seen at many individual levels where the incorporation of flexible practices, managing a more diverse workforce and accounting for global and international trends indicate that more needs to be done. Each of *The “New” Organization* characteristics are discussed in greater detail in Section C below.

2. **Subsidiary Research Questions**

- **What are the implications of change on the acquisition workforce?**

The changing acquisition workforce will necessitate more flexible management practices in order to account for the different levels of expertise in the workforce as well as the aging of the majority of the workforce. There must be a continued commitment to steadily recruit qualified people until shortfalls are mitigated. We know from our data and analysis that different motivations drive different segments of the workforce. We also know that while the older baby boomer generation served well and honorably, they will retire in increasing numbers. The future of the acquisition workforce will be the Generation X and Y and the next generations of workers that are still in school who will enter the workforce over the next decade. We will need to remain sensitive to the demographics of the workforce for age as well as gender and race; our policies and managers must adapt to demographic changes in real-time.

- **What are the emerging role and impacts of *Lean* processes in Army acquisition?**

Many applications of *Lean* processes have been applied within the Army. The acquisition workforce is no exception in this regard. The organizational structures of the acquisition force in many areas such as contracting have already experienced these changes or are in the process of doing so. Often, employees were asked to work within a new *Lean* organizational structure with little to no commensurate change in preparatory training and education. Efforts could be made to reinforce the *Lean* concept where applicable within organizations and in individual work efforts. Just as in *Lean* for organizations, applying the process to individuals will require those personnel to examine their workflow and attempt to eliminate non-core tasks; only value added work that directly contributes to mission accomplishment should be emphasized.

- **What are the implications of *The “New” Organization* on the future strategy for mitigating personnel losses and improving acquisition performance?**

Policies and programs must be designed to: (1) retain current quality personnel in the workforce, (2) recruit new members to the workforce and (3) invest in

new ways to improve the effectiveness and efficiency of the current workforce. Concepts such as *Lean* and the increasing use of networks to develop virtual collaborative communities and cross-functional teams appear increasingly important. Working in a multi-tasked and often ambiguous environment in geographically dispersed locations may hinge on developing a professional and adaptive culture. The new environment appears receptive to greater opportunities for using flexible practices and improving employee work-life balance. For example, more personnel will likely be able to telecommute as the ability to be productive will be less dependent on proximity and more dependent of establishing the right work environment and the appropriate communications capabilities and processes.

- **How can components of *The “New” Organization* assist in retaining experienced acquisition workforce personnel, and attracting new, entry level personnel into the acquisition workforce?**

Incentives will be important for ensuring that the current cohort of acquisition workforce personnel is retained while the new, entry level part of the workforce continues to be recruited and trained. Many of these experienced individuals are now in leadership positions, making it imperative to retain them in the near-term. We know that the ability to attract and retain quality personnel is highly dependent on the incentives and opportunities perceived to be available to the workforce. Leadership must be amenable to implementing flexible practices and diversity attracting programs for the emerging 21st century acquisition workforce. However, this will require a different way of thinking about the workforce, incentives, and opportunities. The message must be that federal government service, particularly in the acquisition workforce is valuable duty with opportunities for advancement, outstanding quality of life and meaningful work. Improving performance will require a major new commitment to training and education for both entry level and continuing professional development.

C. CONCLUSIONS

In looking at the current Army acquisition workforce, we investigated the current status in terms of its projected loss of trained personnel as baby boomers continue to

retire. Many in this age group were instrumental in achieving some of the illustrative examples of how reflective the workforce is of the characteristics of *The “New” Organization*. This group made up the vast majority of the acquisition workforce that designed the Stryker from design to fielding in just six years and reorganized our contracting mission into the Army Contracting Corps. With the gradual and increasing loss of its knowledge base, the Army faces an increasingly complex work-load supporting current and future contingency operations. Strategies are needed to attract a workforce that can continue to improve and refine the support needed to sustain the Warfighter.

The conclusions in this section are focused on *The “New” Organization* construct and the five characteristics. For each, the overarching conclusions resulting from this study will be presented.

1. Reliance on Networks

Many organizations within the Army and the acquisition workforce have already moved towards the use of networks for improving their effectiveness and efficiency. PBUSE is one program which has demonstrated how web based applications can be incorporated into current operations. Another is the use of the CMS application to track acquisition workforce DAWIA certification. The acquisition workforce is continually assessing network type applications used by other government organizations and private industry for incorporation into their structures and processes.

The growth of the Internet and expansion of information technology (IT) has been and will continue to be critical in expanding the use of networks.

2. Application of Flatter (Leaner) Hierarchy

There has been recognition throughout the Army of the need to rely on flatter, leaner structures where applicable. This has been accomplished in some areas such as the establishment of an Army Contracting Command, and the RDECOM. Many other areas need to be examined, as the move to flatter organizations and cross-functional teams is not uniform throughout the Army acquisition workforce.

3. Incorporation of Flexible Practices

Several tools are being used in this area to attract and retain the acquisition workforce. The National Security Personnel System (NSPS) has been implemented as a DoD-wide pay-for-performance structure which is designed to recognize outstanding performance. The entire NSPS is currently under review as there are some concerns from both employees and managers. Flexible Work Schedules are used by many DoD components, though they are not uniformly applied. In general, members of the workforce like these flexible practices, but some elements of leadership remain skeptical. Telecommuting is becoming more widely accepted. It is available to some employees now on a limited basis. Congress is in the process of enacting a bill requiring government agencies to allow eligible employees to work from home or away from their regular office as long as telecommuting does not hamper their performance or interfere with agency operations. Education of the civilian workforce is receiving increased emphasis. On-line courses from the Defense Acquisition University and the Masters' Degree Programs from the Naval Postgraduate School are two current examples.

4. Fostering of Diversity

The acquisition workforce leadership recognizes the need to account for the differences of its baby boomer and Gen X/Y employees in skills and experiences. Each also has different motivations, goals and objectives which impact on how they measure work-life tradeoffs. Each is also vital to ensuring a balanced workforce that can meld operational experiences while planning for the future of the workforce. This includes such key components as financial rewards, health care and pension plans for the older workers, while also providing such incentives as student loan pay-offs, promotion prospects and educational opportunities for younger workers.

5. Global and International Trends

The acquisition workforce leadership is placing more emphasis on developing effective cross-cultural communication skills to adapt to global business. Acquisition personnel are learning to work and live in increasingly complex environments which have a greater mix of uniformed military, civilian, foreign nationals from third party

countries and host nation participants. Efforts in the areas of recruitment and retention of personnel in the science and engineering fields include signing bonuses and hiring of retired military with acquisition and leadership experience.

D. RECOMMENDATIONS

For each of the characteristics of *The “New” Organization*, we developed a set of recommendations which may enable the Army acquisition workforce to better align itself with this construct. These recommendations flow directly from the Chapter III data and the analysis in Chapter IV.

1. Reliance on Networks

Army leadership should continue to emphasize the importance of and requirements for networking including flatter, leaner organizations. Much has already been accomplished, but it is also clear that more emphasis on developing solutions that are fully integrated across the Joint community and within the Army is required. More on this will be discussed with regard to application of flatter, leaner hierarchy.

More networking needs to be accomplished along the lines of the PBUSE. This program has already demonstrated how web based applications can be incorporated into current operations with great effect. Unfortunately, this system is unique and there are not many others with this capacity. The commercial world and social networking have provided insights into many other capabilities that are available or could become available for improving the effectiveness and efficiency of the federal workforce and in particular the Army acquisition workforce. Imagine the potential for an acquisition professional to be able to collaborate on a topic in real-time with experts throughout the Army, the Joint force and even industry concerning a question on an issue such as batteries or a substitute for a particular part. These capabilities are available and in use in many civilian organizations such as Federal Express where they are being used to track packages. We should attempt to harvest these capabilities and import them into the acquisition workforce wherever possible.

2. Application of Flatter (Leaner) Hierarchy

The Army acquisition workforce has begun the process of transformation to leaner, flatter organizations. However, as with the “reliance on network” characteristic, more needs to be done. As we look throughout the Army, we find acquisition organizations that have not yet embarked upon or embraced *Lean* values which typically challenge traditional bureaucratic structures and processes. The Army office under the Deputy Under Secretary of Business Transformation (DUSA-BT) has made great strides in moving the Army towards these leaner organizations. However, we must focus our attention to the Acquisition Corps and workforce in particular.

It will be important as this transformation to leaner organizations progresses that we do not continually improve old processes and organizational structures, but look instead for new ways to solve old problems. In turn, new systems and processes require some cultural change reinforced by applicable rewards and incentives. Stated more directly, we do not want to make old processes faster, we want to eliminate old process and make new, leaner efficient and effective organizations with the workforce directly experiencing the benefits of new, streamlined organizations.

While the Gansler report was important for examining the contracting capabilities of the force and many significant changes have been and are being implemented, we must recognize that contracting is only one of 13 different functional areas the acquisition workforce is responsible for and therefore we need a similar type of evaluation across all the different acquisition areas.

3. Incorporation of Flexible Practices

To continue to incentivize civilian workforce members, leadership should continue to support competitive employment cost index increases across the board for both military and civilian acquisition employees.

Additionally, while NSPS has met with some success within the civilian workforce, there are still many valid concerns with the pay for performance system. We

feel the strategies outlined by the GAO in April 2009, to include a third party analysis of results, publication of final rating distributions and an across the board practice of using all five rating levels could enhance employee acceptance of NSPS.

The Department of Defense has set goals for moving to flexible workforce standards. The surveys presented in the data clearly showed that the acquisition workforce is nowhere close to implementing these requirements. More must be done to make the federal workforce and in particular the Army acquisition workforce more attractive to those already serving and for those we are trying to attract. Programs such as the use of alternate work schedules, retention bonuses, credit hours, teleworking, flexible sick leave, enhanced thrift saving plan system, additional incentives for critical skills area, and other quality of life/benefit initiatives must be considered, wherever feasible.

For years, the uniformed military has had career progression programs whereby one could plan a career along several tracks. Almost twenty years ago, this allowed Soldiers to track as either operations or acquisition corps, based on their preferences. The same type of system for managing the civilian part of the workforce has yet to be developed to the same level. This will include not only developing the career path possibilities for all acquisition employees, but also the professional development and educational opportunities that can be expected over the course of a successful career in the Army acquisition workforce.

We must also work to leverage a competitive advantage that the Army has over all competitors. As we move closer to realizing the DoD and Army acquisition vision of defeating any enemy on the battlefield, an overarching objective must be to instill the belief that there is no greater sense of satisfaction than serving in acquisition organizations that help protect the Nation and its people, as well as personally supporting our Warfighters. We must continue to invest in the well-being of the force, by developing pride in the extraordinary service federal workers are providing.

4. Fostering of Diversity

As the workforce is comprised of several different generations who are motivated by different factors across different preferred work environments, leadership must be cognizant of these dynamics throughout their organizations. Fostering diversity through practices and strategies aligned to each generation will enable the Army acquisition workforce to better attain its goals.

Therefore, to address baby boomer retirement concerns and to keep and attract high-performing employees at all levels, we need to offer quality-of-life initiatives that compare favorably with industry counterparts. In this regard, we must continue to emphasize and augment the competitive advantage that the federal workforce has and in particular the acquisition workforce. Few commercial businesses today have retirement plans that can compare to that offered by the federal government. Additionally, once an acquisition professional retires, the experiences gleaned from years of service in a challenging environment make this individual all the more attractive to industry.

Attracting good entry-level personnel is vital to the survival of the acquisition workforce. We must also develop recruitment plans that seek to highlight and speak to the very issues that are of concern to this entry level workforce including paying off student loans, internships and educational opportunities, and opportunities for professional advancement.

5. Global and International Trends

We must recognize and act as though the acquisition personnel are an international workforce. Since the end of the Cold War, the acquisition workforce has been called upon to deploy in ways very similar to that of the uniformed military. The old acquisition workforce was largely responsible for interfacing with industry for the fielding of weapons systems, major end items and parts. However, today's acquisition professional must be ready, willing and able to deploy to remote locations around the world to perform a variety of different acquisition missions. We have not adequately

prepared the workforce in this way and therefore have relied on individual resiliency rather than training, education, experience and incentives to develop our personnel – this must change.

Just as the military is exposed to language and cultural sensitivity training, so too must we make the investment in language and cultural training for those members of the acquisition workforce that we expect will have regular interface with international commercial entities, personnel and governments.

We also know that many of those foreigners educated in U.S. universities are returning to their countries. We should look for ways to work with these well-trained individuals in international settings should we be deployed in regions and countries where these personnel are living and working.

E. SUMMARY

The “New” Organization offers an important framework for examining the future acquisition workforce. It is one that has gained a degree of acceptance and progresses the notion of transformation to a modern workforce.

This analysis has focused on the civilian personnel within the Army acquisition workforce, a population of over 45,000 personnel. No attempt was made to make recommendations for the military portion of the workforce, although we recognize that the civilian and military components would need to be harmonized.

We strongly believe that a greater reliance on networks, application of flatter (leaner) hierarchy, incorporation of flexible practices, fostering of diversity, and more sensitivity and capabilities for global and international efforts will result in a more capable acquisition workforce for supporting the Army and the Warfighter.

APPENDIX: DEFENSE ACQUISITION WORKFORCE – HUMAN CAPITAL FACT SHEET

Defense Acquisition Workforce ¹	Civilian (Civ) Workforce	Military (Mil) Workforce		Defense Acquisition Workforce
Size & Composition				
FY07 Workforce Size	111,797	14,232		126,033*
FY13 Planned/Budgeted Size	112,294	15,245		127,539
Change in size 2001-2007				-2.5%
Change in size 2005-2007	-6%	-8%		-7%
Civilian/Military Composition	89%	11%		89%/11%
Educational Attainment				
Bachelor's Degree or Higher	78%	85%		78%
Graduate Degree	29%	45%		31%
Certification (Cert)				
Level I or Higher	68%	65%		68%
Level II or Higher	60%	42%		58%
Level III	36%	19%		34%
Position Cert Requirement Met	57%	45%		56%
Planning Considerations				
% Baby Boomer/Silent Generations	73%	18%		
Average Age	47.3	36.3		46.1
Workforce Life-Cycle Model % Future/Mid-Career/Senior	36/34/30(%)			
Average Years of Service	18.5	13.5		
Retirement Eligible (FY07)	20,012 (17.9%)			
Retirement Eligible w/i 5 Years	22,511 (20.1%)			
Gains/Retirements/Other Losses	8134/3222/5277			
Training Statistics				Total
FY07 DAU Course Graduates (Classroom)				33,191
FY07 DAU Course Graduates (Web)				90,600
FY07 DAU Continuous Learning Module Completions				244,072

* There are 4 null records for Mil/Civ in the AT&L Workforce Data Mart

This power point chart was obtained from a briefing given for the Human Capital Initiatives; Defense Acquisition University entitled Defense Acquisition Workforce – Human Capital Update for BCEFM FIPT on November 13, 2008.

<https://acc.dau.mil/GetAttachment.aspx?id=247304&pname=PresentationOtherFile&aid=39274&lang=en-US>. Accessed April 21, 2009.

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LIST OF REFERENCES

- Acquisition Career Management New Hire Brief. U.S. Army Acquisition Support Center, Eastern Regional Support Office. [Power Point Slides]. Headquarters, U.S. Army Acquisition Support Center, December 2008.
- Ancona, Deborah, Thomas Kochan, Maureen Scully, John Van Maanen, D Eleanor Westney. "The 'New' Organization," In *Managing for the Future: Organizational Behavior and Processes*. Unknown ed. 3-19. Boston, MA: South-Western College Publishing, 2001.
- Army Transformation. U.S. Army Transformation Briefing to Commander in Chief, Pacific Command (CINCPAC). [Power Point Slides]. Headquarters, Department of the Army, February 2001.
- Business Transformation. Deputy Undersecretary of the Army (Business Transformation) Briefing. [Power Point Slides]. Headquarters, Department of the Army, March 2009.
- Brodsky, Robert. "Defense Outlines Change in Acquisition Strategy." In *Government Executive.com*. Entry posted February 4, 2009.
<http://www.govexec.com/dailyfed/0209/020409rb1.htm>.
- Brown, Pablo A. and John E. Laudan. Acquisition and Property Book Unit Supply Enhanced (PBUSE). *Army Logistician*, vol. 41, issue 2 (2009).
http://www.almc.army.mil/alog/acquisition_pbuse.html.
- Cavoli, Christina. "Military Deputy to ASA Addresses Army Acquisition Workforce Issues and Initiatives." *Defense Acquisition, Logistics and Technology (AT&L) Magazine* (July-August 2004). http://www.dau.mil/pubs/dam/07_08_2004/care-ja04.pdf.
- Causey, Mike. "Inertia in Action." In *Federal Report*. Entry posted January 27, 2009.
<http://www.federalnewsradio.com/index.php?nid=20&sid=1585096>.
- Cochrane, C.B. and G.J. Hagan, ed. *Glossary: Defense Acquisition Acronyms and Terms*. 12th ed. Fort Belvoir, Virginia: Defense Acquisition University Press, 2005.
- Davidson, Joseph. "Pentagon Personnel System Under Attack." In *Washington Post Federal Diary*. Entry posted February 20, 2009.
http://voices.washingtonpost.com/federal-diary/2009/02/pentagon_personnel_system_under_attack.html.

- . “How to Address the Federal Brain Drain? Focus on Those Seniors.” In *Washington Post Federal Diary*. Entry posted February 25, 2009.
http://voices.washingtonpost.com/federaldiary/2009/02/how_to_address_the_federal_bra.html.
- Defense Acquisition University’s iCatalog. 2009.
<http://www.dau.mil/catalog/cat2009/appendixb.pdf>.
- Department of the Army. Career Acquisition Management Portal (CAMP).
<https://rda.altess.army.mil/camp>.
- . Office of the Assistant Secretary of the Army, Acquisition, Logistics and Technology Memorandum. “Director, Army Acquisition Corps (AAC) Guidance Memorandum #1”. 2006.
http://asc.army.mil/docs/policy/AAC_Policy_Memorandum_IDP_Accountability.pdf.
- Department of Defense Acquisition, Technology and Logistics (AT&L) Human Capital Strategic Plan, Version 3.0, June 2007.
- . Special Human Capital Edition, 2009.
- Department of Defense Desk Guide for Acquisition, Technology, and Logistics Workforce, 2006.
- Department of Defense. *Joint Program Executive Office (JPEO) for the Joint Tactical Radio System (JTRS) Organizational Overview*. Undated.
http://jpeojtrs.mil/files/org_info/JPEO_JTRS_Org_Overview.pdf.
- Expeditionary Contracting Command. U.S. Army Expeditionary Contracting Command Briefing. [Power Point Slides]. Headquarters, U.S. Army Material Command. June 2008.
- Feickert, Andrew. “The Army Future Combat System (FCS): Background and Issues for Congress.” Congressional Research Service. (March 13, 2009).
<http://www.fas.org/sgp/crs/weapons/RL32888.pdf>.
- Flood, Scott, Paul Richard. “An Assessment of The Lead Systems Integrator Concept as Applied to the Future Combat System Program.” *Defense Acquisition Review Journal*. December 2005-March 2006.
<http://www.dau.mil/pubs/arq/2006arq/2006arq-41/flood.PDF>.
- Future Combat Systems Program Update. U.S. Army Future Combat Systems Program Manager Briefing. [Power Point Slides]. Headquarters, Department of the Army. March 2002.

- Gates, S.M., Keating, E.G., Jewell, A.D., Daugherty, L., Tysinger, B., Robbert, A.A., Masi, R. The Rand Corporation. (2008). *The Defense Acquisition Workforce: An Analysis of Personnel Trends Relevant to Policy, 1993-2006*. Santa Monica, CA.
- Hermes, Cynthia. "LTG Joseph L. Yakovac, Jr. Reflects on Army Acquisition Changes and Accomplishments." *Army AL&T Magazine*. (October-December, 2006). http://asc.army.mil/docs/pubs/alt/2006/4_OctNovDec/articles/66_LTG_Joseph_L._Yakovac_Jr._Reflects_on_Army_Acquisition_Changes_and_Accomplishments_200604.pdf.
- Human Capital Initiatives Briefing: Defense Acquisition Workforce Human Capital Update for the Business, Cost Estimating, Financial Management (BCEFM) Functional Integrated Product Team. [Power Point Slides]. Defense Acquisition University. November 2008. <https://acc.dau.mil/GetAttachment.aspx?id=247304&pname=PresentationOtherFile&aid=39274&lang=en-US>.
- Joint Chiefs of Staff. Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01G—Joint Capabilities Integration and Development System. March 2009.
- Jones, Ethan. The Acquisition, Logistics, and Technology Contracting NCO. *Army Logistician*, vol.39, issue 4 (2007). http://www.almc.army.mil/alog/issues/JulAug07/contracting_NCO.html.
- Losey, Stephen. "Retirements Slowing Down." In *FederalTimes.com*. Entry posted July 6, 2008. <http://www.federaltimes.com/index.php?S=3612001>.
- McClelland, Richard E. "Spinning Out Future Force Technologies to Warfighters Today." *Army AL&T Magazine*, (Nov-Dec 2008). http://asc.army.mil/docs/pubs/alt/2005/6_NovDec/articles/08_Spinning_Out_Future_Force_Technologies_to_Warfighters_Today_200506.pdf.
- Newell, Elizabeth. "Federal Officials Strategize on Boosting Acquisition Workforce." In *GovernmentExecutive.com*. Entry posted February 14, 2008. <http://www.govexec.com/dailyfed/0208/021408e1.htm>.
- Rosenberg, Alyssa. "New Bill Would Provide Grad Student Scholarships for Service." In *GovernmentExecutive.com*. Entry posted May 23, 2008. <http://www.govexec.com/dailyfed/0508/052308ar1.htm>.
- Report of the Acquisition Advisory Panel to the Office of Federal Procurement Policy and the United States Congress. January 2007. 325-388.
- Sharbel, Andrew. "Belvoir Seeks 'Green' Ideas for Transportation Management." In *Belvoir Eagle*. Entry posted March 12, 2009. http://www.belvoireagle.com/index.php/belvoir/news-articles/belvoir_seeks_green_ideas_for_transportation_management/.

- The Objective Force Maneuver Unit of Action – FCS-Equipped Combat Battalion O&O. U.S. Army Training and Doctrine Command (TRADOC) Briefing, [Power Point Slides]. Headquarters, TRADOC. Undated.
- Thompson, N. Ross. “U.S. Army Acquisition Support Center (USAASC) to Launch Certification Management System (CMS).” *Army AL&T Magazine*. (2007). http://www.usaasc.info/alt_online/article.cfm?iID=0704&aid=11.
- U.S. Army. Independent Commission on Army Acquisition and Program Management in Expeditionary Operations. *Urgent Reform Required: Army Expeditionary Contracting*. Washington, D.C. (October 2007).
- . *United States Army White Paper: Concepts for the Objective Force*. Headquarters, Department of the Army. Washington, D.C. (2001).
- U.S. Army Acquisition Support Center Press Release, “U.S. Army Acquisition Support Center Top Five Achievements for 2007.” (2007). http://asc.army.mil/docs/press/Top_5_Comments_27NOV07.pdf.
- U.S. Army Contracting Command. Parsons, Jeffrey. *Statement before the Committee on Armed Services, U.S. House of Representatives on Contracting in Iraq and Afghanistan*. (April 2008).
- U.S. Army Field Manual 3-0. *Operations*. Fort Monroe, VA: U.S. Army Training and Doctrine Command, (2001).
- U. S. Army Posture Statement. *Life Cycle Management Initiative*. Headquarters, Department of the Army. Washington, D.C. (2008). http://www.army.mil/aps/08/information_papers/reset/Life_Cycle_Management_Initiative.html.
- U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-66. *Force Operating Capabilities*. Fort Monroe, VA: U.S. Army Training and Doctrine Command, (2003).
- U.S. Army Transformation Campaign Plan. Headquarters, Department of the Army. Washington, D.C. April 2001.
- U.S. Government Accountability Office. *Human Capital: Effective Use of Flexibilities Can Assist Agencies in Managing Their Workforces* (GAO Report No. 03-2, December 2002).
- . *The Army and OSD Met Legislative Requirements for First Stryker Brigade Design Evaluation, but Issues Remain for Future Brigades* (GAO Report No. 04-188, December 2003).

- . *Summary Recommendations for Best Practices: Stronger Practices Needed to Improve DOD Technology Transition Processes* (GAO Report No. 06-883, September 2006).
 - . *Defense Logistics: Changes to Stryker Vehicle Maintenance Support Should Identify Strategies for Addressing Implementation Challenges* (GAO Report No. 06-928R, September 2006).
 - . *Defense Acquisitions: Restructured JTRS Program Reduces Risk, but Significant Challenges Remain* (GAO Report No. 06-955, September 2006).
 - . *Federal Acquisition Challenges and Opportunities in the 21st Century* (GAO Report No. 07-45-SP, October 2006).
 - . *Human Capital: Federal Workforce Challenges in the 21st Century* (GAO Report No. 07-556T, March 2007).
 - . *March 26 Hearing on Defense Services Acquisition: Questions for the Record* (GAO Report Number 07-640R, March 2007).
 - . *Role of Lead Systems Integrator on Future Combat Systems Program Poses Oversight Challenges* (GAO Report No. 07-380, June 2007).
 - . *Older Workers: Enhanced Communication Among Federal Agencies Could Improve Strategies for Hiring and Retaining Experienced Workers* (GAO Report No. 09-206, February 2009).
 - . *Human Capital: Opportunities Exist to Build on Recent Progress to Strengthen DoD's Civilian Human Capital Strategic Plan* (GAO Report No. 009-235, February 2009).
 - . *Department of Defense: Additional Actions and Data Are Needed to Effectively Manage and Oversee DoD's Acquisition Workforce* (GAO Report No. 09-342, March 2009).
 - . *Improved Implementation of Safeguards and an Action Plan to Address Employee Concerns Could Increase Employee Acceptance of the National Security Personnel System* (GAO Report No. 09-464T, April 2009).
- U.S. Office of Personnel Management. *An Analysis of Federal Employee Retirement Data: Predicting Future Retirements and Examining Factors Relevant to Retiring from the Federal Service*. (March 2008). http://www.opm.gov/feddata/RetirementPaperFinal_v4.pdf.
- Winbush, James O., Christopher S. Rinaldi, and Antonia R. Giardina. "Life Cycle Management: Integrating Acquisition and Sustainment." *Army Logistician*, vol. 37 (2005). <http://www.almc.army.mil/alog/issues/JanFeb05/lifecycle.html>.

Yakovac, Joseph. Early Lessons Learned from the Army's Future Combat Systems Program (FCS): Developing an Appropriate Contractual Arrangement with Industry, Establishing an Enabling Program Management Structure and Test Organization. NPS-GSBPP-08-33, Naval Postgraduate School, 2008.

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