



Senior
Service
College
Fellowship

Research
Summaries

Warren Seminar

as of May 2014

Table of Contents

Class of 2008.....	4
Globalized Military Industry: Are Army Program Managers Prepared to Manage the Risks? by Clifton Boyd.....	5
Logistics Support Concept for the Future Combat System by Jerry Figueroa.....	6
The Impacts of Commercial Maintenance Technology on Army Materiel Maintenance Practices by Mitchell Kozera	7
Dismounted Soldier Equipment – Novel Concepts and Technologies to Reduce the Weight Burden of Body Armor Material by Cassandra C. Maxwell.....	8
Inserting New Technology: A Look at Best Practices by John McLeish	9
Alternative Fuels: Are We Making the Right Choices? by Todd Weimer	10
The Aging Workforce and its Impact in the Workplace by Vito Zuccaro	11
Class of 2009.....	12
Acquisition Risks of the Berry Amendment by David Busse.....	13
Mentoring: Should TACOM have a Formal Mentoring program? by Dianne C. Duggan	14
Key Factors for Successful Collaboration within TACOM LCMC by Jennifer A. Hitchcock	15
Army Acquisition Manager Challenges with Existing Laws, Regulations and Policies governing Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation by Andrew Orlando.....	17
Analysis of Skills in Army Civilian Leadership by Deborah Struck	18
Succession Planning for TACOM LCMC by Deborah Washer	19
Factors in Purchasing Technical Data Rights for Military Equipment by Belinda Watts-Horton	20
Class of 2010.....	21
Workplace Factors That Affect the Employee’s Decision to Use Flexible Work Arrangements by Paul Boak	22
Employee Engagement: Analyzing the Rational and Emotional Commitment of the 554th Electronic Systems Group by Todd Green.....	23
The Effects of the Declining Domestic Commercial Automotive Industry and its Suppliers on Military Tactical Vehicle Acquisitions by Michael E. Loos.....	24
Industry Technology Transition After the Expedited Modernization Initiative Procedure Event by Jim Loughridge	25

Globalization of the Semiconductor Industry and use of Trusted Foundry for Programs in the 312th Aeronautical Systems Wing by Angelo Pietrantonio.....	26
The Impact of the Modular Force Structure and the Two Level Maintenance on the Brigade Maintenance Costs by Robert Stovall	28
Weapon Systems Acquisition at Aeronautical Systems Center: Are We Prepared to be Successful? by Stephen Ward	29
Class of 2011.....	30
Program Management at the Implementation Level -- Enablers and Obstacles to Timely Acquisition by Ross Boelke	31
Leading the Millennial Generation by Pamela Demeulenaere.....	32
Managing Army Capability Sets: A Systems Engineering Perspective by Robert Halle	34
Application of Integration Readiness Assessments to the Defense Acquisition Process by Diane McCarthy	35
U.S. Air Force Science and Technology Interactions with Acquisition Development Planning by Greg Rhoads.....	36
The Current U.S. Policy Concerning the Use of Weapon Systems, Munitions & Lasers by U.S. Special Operations Command in their Joint Operational Environment by Steve Turpen	37
Class of 2012.....	38
Using Emotional Intelligence to Lead the TACOM Workforce by Suzanne Archer	39
Leadership Styles of Men & Women by Jennifer Beffrey.....	40
Motivating and Retaining a Quality Multi-Generational Workforce by Ronald Bokoch.....	41
The Joint Center for Ground Vehicles: A Case Study of DoD Organizational Transformation Using Grounded Theory by Teresa Gonda	43
TACOM Leadership Skills for the 21 st Century: An Employee Perspective by David Marck	45
Leading a Distributed Workforce: Virtual Leadership by Christopher Miles	47
Understanding Organizational Commitment and Satisfaction of TACOM LCMC AT&L Associates by Nancy Saxon	49
Recognizing the Need, Impacts and Benefits of Skillful Delegation in the Workplace by Cassandra Smith.....	51
Class of 2013.....	52
Impact of Mentoring on Civilian Leadership Development at the Detroit Arsenal by Cathy Atherton.....	53
Effectiveness of Matrix Organizations at the TACOM LCMC by J. Scott Baumgartner	55
Evaluation of Change Leadership Skills at TACOM by Geri BoBo	56

Transformational Leadership and its Relationship to Job Satisfaction at Army Contracting Command - Warren by Brian Corrigan.....	57
Understanding Alignment of Trust Behaviors and Their Effect on Organizational Trust at the TACOM LCMC by Anthony Desmond.....	58
Knowledge Management Maturity within TACOM LCMC by Kristopher Miciura.....	59
An Investigation of Collaborative Leadership by Keith Schweizer.....	60
Understanding Best Recruiting Practices in Literature and at the TACOM LCMC by Colleen Setili	61
The Impacts of Cultural Differences on the Importance and Effectiveness of Leadership Styles, Skills, Traits and Power by Ray Williams	62
Class of 2014.....	63
Competencies of DoD Program Managers by Anthony Budzichowski.....	64
An Assessment of TARDEC’s Utilization of the Processes, and Availability of Tools and Physical Environments that Promote Innovation by Deborah Dicesare	65
The Impact of Potential Budget Reductions on Continuous Process Improvement at TACOM LCMC by John Engbloom	67
The Impacts of the Fiscal Year 2013 Furlough on the Army Acquisition Workforce by Jack Spielman.....	68
An Investigation of Climate, Behaviors and Culture and Their Effects on Organizational Innovation at TARDEC by Marta Tomkiw.....	69

Class of 2008



Globalized Military Industry: Are Army Program Managers Prepared to Manage the Risks? by Clifton Boyd



Logistics Support Concept for the Future Combat System by Jerry Figueroa



The Impacts of Commercial Maintenance Technology on Army Materiel Maintenance Practices by Mitchell Kozera



Dismounted Soldier Equipment – Novel Concepts and Technologies to Reduce the Weight Burden of Body Armor Material by Cassandra Maxwell



Inserting New Technology: A Look at Best Practices by John McLeish



Alternative Fuels: Are We Making the Right Choices? by Todd Weimer



The Aging Workforce and its Impact in the Workplace by Vito Zuccaro



Globalized Military Industry: Are Army Program Managers Prepared to Manage the Risks? by Clifton Boyd

The question this research attempts to answer is whether the formal training a PM receives is perceived as effective to identify and plan for the risks posed by a globalized contractor. The data gathered in support are summarized here:

- Analysis of course content revealed that none of the formal training courses addresses the risks presented in this research. Furthermore, only 4 out of 14 classes address the international or global context of executing a program in today's environment.

- The structured interview initial objective of identifying the risks from operating with a globalized contractor was met, with each of the eight risks being reported by at least one interviewee. Data characterizing the likelihood and consequences for each risk were obtained. Further results report that PMs are average (2.5 out of 5) at identifying global contractors and their inherent risks. Interviewees confirmed the definition being used for globalized contractors and recommended formal training topics for Army PMs to prepare them for dealing with globalized contractors.

- The survey of Army PMs indicated that they perceived the SDD and Production phases are most at risk (61 % and 62 % respectively) when using a globalized contractor. The average agreement rate that risks existed was 50 %. The highest agreement was with the risk of technical data protection (70 %), software security/integrity (60 %), and supply chain disruption (62 %). An average of 52 % of the Army PM's felt their formal training did not effectively prepare them, with the largest areas of ineffectiveness found in dealing with legal differences (60 %), software security/integrity (58 %), and program disruption at foreign sites (58 %). Out of the total population, an average of 25 % agreed the risks were legitimate and perceived their training to be ineffective in preparing them to handle these risks. Size of program yielded no discernible differences in the results. Experience did prove to be a variable, with the less experience, more recent PMs less likely to declare their formal training ineffective or effective.



Logistics Support Concept for the Future Combat System by Jerry Figueroa

The characteristics of the Army's Future Combat System will necessitate a shift in the Army's traditional logistics sustainment strategies to more efficient methods of support. The Future Combat System will employ a network-centric architecture, unlike any other weapon system that the Army has ever deployed. The complexity of this system requires a new logistics support strategy that is flexible enough to respond to changing conditions on the battlefield and in garrison. This effort investigates the suitability of Performance-Based Logistics as the logistics support concept for the Future Combat System. Two case studies are presented that provide evidence of the benefits that Performance-Based Logistics have provided other Department of Defense weapon systems.

Traditional logistics support concepts do not generally capitalize on commercial best practices that have been proven to improve supply chain performance. If the Army does not modernize its support practices, it risks becoming irrelevant to the support of our combat forces as combatant commanders (COCOMs) turn to the commercial marketplace for support. Although Army fighting doctrine currently employs integrated tactics, FCS is such a dramatic shift in war fighting doctrine that it is necessary to reexamine traditional Army methods of support in order to achieve the very high state of readiness that our defense forces require.

The paper argues that Performance-Based Logistics offers the Army the most viable option for the optimal logistics support of such a complex system and provides a series of recommendations to implement the effort. If adopted, a Performance-Based Logistics strategy will ensure that the Army's Future Combat System will maintain acceptable operational availability rates at a reduced cost.



The Impacts of Commercial Maintenance Technology on Army Materiel Maintenance Practices by Mitchell Kozera

The information gathered from the Integrated Logistics Analysis Program (ILAP) supports the idea that there is room for improvement in maintenance processes to improve turnaround time. The ILAP data tell that, in the months between April and September 2007, there were relatively long wait times for repair parts in Iraq. Those wait times added significantly to total turnaround time and caused Army maintainers to exceed regulation metrics for turnaround time in a combat zone. Actual repair times were, on average, significantly lower than wait time for parts. However, at different times during the sample period, repair time by itself exceeded the recommended metrics for acceptable maintenance turnaround time. This is likely attributable to maintainer workload and the fact that soldiers move to other tasks when waiting for repair parts. Also, since there is significant manual recording of work order data, it should not be ignored that some of this data could be attributable to faulty record keeping.

The Army findings certainly make a case for insertion of commercial technology that can improve maintenance turnaround time. International Truck and Engine Corporation's *AWARE*TM product is in development with the intention of creating a system for International Truck's fleet managers to increase diagnostic situational awareness and improve their maintenance processes. Their philosophy includes developing the product to help potential customers like the Army impact their truck fleet in the same way. The *AWARE*TM approach addresses real-life problems for maintaining readiness of vehicle systems under normal conditions and in the event of catastrophic failures. The approach also supports the philosophy that fleet managers in commercial industry and the Army alike have the same sorts of maintenance issues that impact short- and long-term success.

The use of commercial electronics and wireless communications technologies is an area that has been under investigation in many unconnected initiatives by the Army for several years. The approach that *AWARE*TM uses to integrate those technologies offers a reasonable and convenient way for the Army to adapt the technologies in one single solution.



Dismounted Soldier Equipment – Novel Concepts and Technologies to Reduce the Weight Burden of Body Armor Material by Cassandra C. Maxwell

Since the time of the Pharaohs, body armor, although crude, has been used to protect the Warfighter during times of war. From the deserts of ancient Egypt to the modern day War on Terrorism, body armor is still being used to increase the survivability of the Warfighter. The use of body armor doesn't come without its pitfalls however. It is heavy and expensive and in ancient times, was only used for the very elite and the wealthy. Today body armor is standard issued equipment for all soldiers on the battlefield, but weight issues continue to plague the Warfighter. In this research paper we will explore new and emerging body armor materials that will reduced the weight burden of today's Warfighter.

The purpose of this research is to identify new or emerging body armor materials that will reduce the weight burden of the soldier's protective vest. The weight of the Warfighter's equipment has been a concern for many years and initiatives to reduce the weight of the equipment are ongoing. This research will more narrowly focus on soldiers' body armor or the soldiers' protective vest and new or emerging body armor materials that will reduce the weight burden to the soldier. The primary research question is: Are there new or emerging body armor materials that will reduce the weight of the soldier's protective vest?



Inserting New Technology: A Look at Best Practices by John McLeish

The insertion of new technology in current and future military vehicle systems is a subject of paramount importance. To do it faster and at less cost and more efficiently is equally important. The capacity to incrementally and rapidly insert new and more reliable technology at the component level as they become available in commercial (also international) ventures are key concepts to reducing Life Cycle Management Cost (LCMC) and improving supportability issues (Reliability, Supportability and Maintainability), especially in our legacy vehicles. This is also true for improving safety and survivability systems, advancing distribution and mission enhancement, as well as improving interoperability and operational capability. When the “Cold War” was won, budgets were expected to shrink and they did. Acquisition Reform Initiatives were introduced to address this dilemma of shrinking budget outlays. Essentially the purpose and aims were to insert new technology faster, better and cheaper. The method was to identify and leverage Industry’s investment in commercial technology without resorting to military Specifications and lengthy developmental efforts. Commercial-off-the-Shelf (COTS), Non Developmental Item (NDI), Military-off-the Shelf (MOTS), Opens System Architecture and other concepts were introduced. It has now been twelve plus years since Acquisition Reform initiatives were introduced. Despite the Greater War on Terrorism (GWOT), and recent expanded budgets the situation remains much the same. Budget outlays are again expected to decrease no matter who wins congress or the white house.

The primary research questions are: (1) What methods or initiatives have been successful and are positively viewed or accepted as valid practices in improving technology insertion? (2) What enabling strategies have been identified and accepted? (3) Which methods or Initiatives have been used but have not been successful or widely accepted? and (4) What impediments or barriers to implementation of Technology Insertion have been encountered?



Alternative Fuels: Are We Making the Right Choices? by Todd Weimer

TACOM is responsible for fielding and supporting one of the largest ground combat forces in the world. One of the key elements to supporting this large mechanized force is fuel—currently fossil fuel. The continued use of fossil fuel is a worldwide concern. The concern stems from both availability and environmental impact. Research scientists everywhere are developing alternative energy sources, including alternative fuels for use in automobiles.

The choices these research scientists make could have a huge impact on how TACOM, or the Army, conducts and supports military operations, so it is important to understand the decision process. This research evaluated the factors the research scientists felt were most important and then compared these rankings to those of TACOM's logisticians. A divergence of importance could indicate that the research scientists' decisions might lead to large, wholesale changes for our combat and tactical systems and may even have changed how we conduct operations. The results did not show a divergence of decision-making factors. This is encouraging and should indicate that changing to a replacement fuel should be a smooth transition. The research also indicates that initial transition for the commercial consumer could be as soon as 5 years. This relatively quick transition may prompt a transition of the government beyond what has already taken place in the General Service Administration (GSA) fleet. Lastly, it is not a question of *if* the Army converts to an alternative fuel. It is a question of *when*. The research was clear that fossil fuels may not last into the next century. TACOM may be forced to follow commercial industry in their choice of alternative fuels. This is why it is important to understand the decisions being made, as they could impact our future warfighters.



The Aging Workforce and its Impact in the Workplace by Vito Zuccaro

The world experienced a baby boom from 1945 to 1965. A large number of these baby boomers have retired or will be retiring in the near future. When these people leave their workplaces they take with them a wealth of accumulated knowledge and skills. As people are the greatest resource in an organization, human capital must be managed effectively to ensure continued success of the organization. This research paper investigates the impacts the aging workforce is having in the work environment; and what can be done to mitigate the negative dimensions of that impact.

There is a growing concern with the aging workforce in the United States and in many other nations around the world. What type of impact is this issue having on the Department of Defense (DoD) and the Army's Acquisition Center within the TACOM Life Cycle Management Command (LCMC)? What type of impact is the aging workforce having on the private sector and foreign countries? What can be done to alleviate the aging workforce issue and to meet the challenges of knowledge management in today's globalized environment?

The TACOM Acquisition Center, like many other organizations, is experiencing the retirement of its baby boomer workforce and those baby boomers that are fast approaching retirement eligibility. The problems facing the Acquisition Center are multi-faceted but interrelated. This research assesses the extent to which the TACOM Acquisition Center is facing challenges from increasing requirements due to the aging workforce such as senior, experienced workers retiring and the center not being able to retain that knowledge and experience in the center. Also, this research determines what threats the aging workforce (those people on the verge of retirement or already eligible for retirement) will pose in terms of loss of crucial knowledge, skills, abilities and expertise in the Acquisition Center. This research also addresses what actions can be taken to retain this critical knowledge, skills, abilities and expertise as a means to narrow the gap between old and young workers.

Class of 2009



Acquisition Risks of the Berry Amendment by David Busse



Mentoring: Should TACOM have a Formal Mentoring Program? by Dianne Duggan



Key Factors for Successful Collaboration within TACOM LCMC by Jennifer Hitchcock



Army Acquisition Manager Challenges with existing Laws, Regulations and Policies governing Rights in Noncommercial Computer Software & Noncommercial Computer Software Documentation by Andrew Orlando



Analysis of Skills in Army Civilian Leadership by Deborah Struck



Succession Planning for TACOM LCMC by Deborah Washer



Factors in Purchasing Technical Data Rights for Military Equipment by Belinda Watts-Horton



Acquisition Risks of the Berry Amendment by David Busse

Globalization has brought significant benefits to the Program Manager (PM) by providing access to low cost manufacturing and state-of-the-art technology. In response to these benefits, the U.S. defense industrial base has globalized to provide the PM advanced warfighter capability within reduced. Counterproductive to the advantages of globalization is the Berry Amendment, a law which restricts the PM to procure military products with 100% domestic content. To effectively manage this paradox, the PM needs novel risk management strategies to procure Berry Amendment restricted goods in the globalized market place. The purpose of this research was to identify strategies for reducing the adverse impacts of the Berry Amendment on the cost, quality, and technology of goods and services purchased by the Department of Defense to support the warfighter without sacrificing national security or economic interests in this era of globalization.



Mentoring: Should TACOM have a Formal Mentoring program? by Dianne C. Duggan

Mentoring relationships are, typically, a pairing of a junior with a senior colleague so that they may share experiences, information, and knowledge. The actual term dates back to the Greek epic poems detailing Odysseus' trek to Trojan War. Odysseus entrusted his advisor, Mentor, with the care of Odysseus' son, Telemachus. Mentor was tasked with monitoring Telemachus' studies and guiding his education and development. Just as Mentor would have been charged with overseeing the various aspects of Telemachus' education such as reading, writing, and swordsmanship, mentoring relationships can and do happen in all aspects of life such as at school, in church, in families and in friendships. However for the purpose of this study, career mentoring will be addressed. From the mythological source, a mentor's duties included guiding, teaching and advising younger associates in the ways of the world or the organization. In employment settings, the more senior or more experienced associates serve as mentors to the newer and current, but less experienced employees. Typically, the mentor teaches their mentee the culture of the organization and instills in them the values and beliefs of their employing firm.

The mentoring relationship may be formal or informal. A formal relationship is sponsored by the employing organization while informal relationships develop between individuals without corporate sponsorship. Both types of relationship have value but informal mentoring is the most common form. Informal mentoring relationships arise from work-related interactions, such as when working together on a specific project or when one person supervises the other. Two people may develop mutual respect and trust and seeks out the mentor for career planning advice or situational advice. This study centers on formal mentoring in the workplace.



Key Factors for Successful Collaboration within TACOM LCMC by Jennifer A. Hitchcock

The definitions and opinions in the TACOM LCMC vary widely on what hinders or facilitates collaboration and how it should be accomplished. Most people agree that during times of urgency and crisis the TACOM LCMC collaborates very effectively. In addition, a few organizations regularly collaborate successfully. But many perceived barriers to collaboration appear to prevent successful collaboration from occurring on a long term basis. Since the LCMC is a collaborative organization and collaboration is important to the LCMC's success, this study was conducted to determine the key factors required for successful collaborations. Specifically this identifies key factors needed for successful long term collaborations within the command.

A collaborative culture in a business or organization has many benefits. In the United States Army, pockets of collaboration have resulted in leveraging expertise and resources to provide improved capabilities and equipment faster to Soldiers in conflicts around the world. As our pace of operations has increased since 2004, collaborations have helped reduce the time it takes to solve problems, procure and field equipment. This has resulted in providing equipment for Soldiers to perform their missions and a noticeable decrease in lives lost.

Long term collaborations are important not only because of the benefits stated above, but because the Army is undergoing significant changes in the way it does business. The Army is facing a more complex and global operating environment which will require more resources than are available. With the Global War on Terrorism, modernization, increasing requirements and diverse demands, maintaining the status quo is not an option.

This research study was conducted using exploratory research and qualitative analysis to discover the factors that are considered key to successful collaboration. Data was collected from literature and interviews. The interviews were focused on successful collaborations and the interview questions were developed using the appreciative inquiry approach. Interviews were conducted with seven people from three different long term successful collaborations within the TACOM LCMC. Additionally eight interviews were conducted with three different successful industry organizations to provide a perspective beyond the military environment.

Analysis of the data revealed 19 factors that enable successful collaborations and research shows that the appearance of each factor in some amount is needed for successful collaborations. There appear to be commonly agreed upon factors between military and industry collaborations, and factors that are different between the two sectors. There appears to be an important pattern of interdependency between some of the factors. This interdependency implies that *leadership support for the collaboration, the collaborative goals and vision, personal accountability and ownership of the collaboration process, continuous communications and the leaders of the collaboration having collaborative skills and behaviors* are core factors for successful collaborations. Concentrating resources on developing these core factors will begin to build successful collaborations within the TACOM LCMC and allow for the continuous building of all the factors into the culture to create a collaborative culture.



Army Acquisition Manager Challenges with Existing Laws, Regulations and Policies governing Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation by Andrew Orlando

The cost to develop, procure and sustain major weapon systems in the DOD has increased by almost \$300Bs under the current DFARS policy and performance based acquisition (PBA) strategies. In a United States Senate Committee on Armed Services letter dated 7 November 2008 from Senators Carl Levin and John McCain to the Honorable Robert Gates Secretary of Defense, “nearly half of DOD’s 95 largest acquisition programs have exceeded the so-called ‘Nunn-McCurdy’ cost growth standards established by Congress to identify seriously troubled programs.” Congress along with DOD must make some simple changes to its procurement laws, acquisition strategies, policies and regulations as levied in DFARS in order to maintain costs and meet the materiel demands of its forces.

This study focused on the Department of the Army (DA), an agency under the DOD, and existing challenges faced by Army program managers due to rights in noncommercial computer software. PMs are charged with the total systems acquisition of major weapons systems that today include software development, sustainment and reuse issues. The purpose of this study was to determine if a relationship existed between rights in noncommercial computer software developed for the Army and measures of effective technology transition reporting as governed by current U.S. Laws and Federal Regulations guiding Army contracts. This study resulted in a series of recommendations to effectively control costs, meet schedule and improve technology transition. The first step was to identify if any assessment measures existed relative to current intellectual property and technology transfer laws. The second step was to determine if there was a benefit to the U.S. economy and or detriment to weapon systems costs. The third step was to develop viable options to reduce overall lifecycle software costs pertaining to weapon systems.



Analysis of Skills in Army Civilian Leadership by Deborah Struck

Successful companies are embracing the fact that globalization has arrived. Globalization plays a major role in companies like IBM's success. There are many key success factors organizations must employ for "going global." An effective partnership between all the stakeholders is viewed as essential; as is networking and relationship building skills. Understanding culture, societal norms and expectations all over the world are skills today's leaders require since understanding multiple perspectives in various communities is necessary for a leader's success. Global understanding will facilitate broadening of the organization's knowledge to understand not only different cultures, but also the global context in which organizations like the US Army operate today. Possessing a 'global mindset' encompasses the geographical reach of business operations, as well as the cultural and intellectual aspects of the organization. Execution of these skills in the global context is the challenge for any leader.

The primary purpose of this study is to provide an assessment of how TACOM LCMC hires, retains, and prepares future leaders for the success of the organization. This goal of this research is to determine the *essential* soft skills of *successful* global senior civilian leaders based upon current literature.

As a first step in this assessment, this study will identify the key documented requirements for civilian leadership at TACOM. This assessment will include comparing these requirements with current core competencies that are used to qualify and rate performance of senior leaders in the Army. Seven performance elements for an SES were identified during the literature review. Interviews were then conducted to determine which skills are viewed as most critical for the success of senior leaders at TACOM.



Succession Planning for TACOM LCMC by Deborah Washer

There is a need for Succession Planning at the TACOM LCMC, which will be undergoing a major transformation in the next couple of years as many missions, functions and positions will transfer in and out of the command due to impending retirements and as a result of 2005 Base Realignment and Closure decisions. The main research question for this research is: What is the best framework for common succession planning that will help meet the TACOM LCMC goal of continuing to build and support the desired workforce with the knowledge, skills, and abilities to meet the needs of the TACOM LCMC? A common succession planning framework for the entire TACOM LCMC enterprise is needed to provide the workforce with leaders that are prepared to move the organization forward to continue to meet the Army mission in the ever changing global environment.

Qualitative descriptive research was conducted to discover the steps and elements that are considered key to effective succession planning. A thorough literature review was completed and included a comparison of illustrations of different agencies identified as having effective succession planning processes. Open ended interview questions and follow on interview discussions were conducted with five key leaders that represent the five core functions of the command: Technology; Staff Support; Acquisition; Logistics; and Contracting.

The following themes were identified from the data as being best factors or key elements based on the literature review and the interview guides: align with strategy, identify key positions, identify competencies/skills, assess and develop talent, and evaluate and measure. The common framework for TACOM LCMC succession planning includes People Skills, Business Intellect and Education. There are many tools and resources available within this framework for the TACOM LCMC to build an effective succession planning program.

Today the focus for succession planning is on the development of an organization's human capital and aligning it with the strategic mission, which for the TACOM LCMC is the ultimate support to war fighter. Developing the right leaders with the right skills at the right time and having them in the right place is the key to succession planning.



Factors in Purchasing Technical Data Rights for Military Equipment by Belinda Watts-Horton

A critical element in the life cycle of a weapon system is the availability of the item's technical data, recorded information used to define a design and to produce, support, maintain, or operate the item. Because a weapon system may remain in the defense inventory for decades following initial acquisition, technical data decisions made during acquisition can have far-reaching implications over its life cycle. This research will examine the adequacy of current DoD policies, Army Regulations, understanding and comprehension regarding access to technical data rights versus delivery of technical data rights. This study has practical applications. The purpose is to suggest strategies, training and decision matrixes in determining technical data required for long term sustainment Army support.

Class of 2010



Work Place Factors That Affect an Employees' Decision to Participate in Flexible Work Arrangements by Paul Boak



Employee Engagement: Analyzing the Rational and Emotional Commitment of the 554th Electronic Systems Group by Todd Green



The Effects of the Declining Domestic Commercial Automotive Industry and its Suppliers on Military Tactical Vehicle Acquisitions by Michael Loos



Industry Technology Transition After the Expedited Modernization Initiative Procedure Event by James Loughridge



Globalization of the Semiconductor Industry and use of Trusted Foundry for Programs in the 312th Aeronautical Systems Wing by Angelo Pietrantonio



The Impact of the Modular Force Structure and the 2 Level Maintenance on the Brigade Maintenance Costs by Robert Stovall



Weapon Systems Acquisition at Aeronautical Systems Center: Are We Prepared to be Successful? by Stephen Ward



Workplace Factors That Affect the Employee's Decision to Use Flexible Work Arrangements by Paul Boak

The purpose of this study was to determine the workplace factors that affect employees' decisions to participate in flexible work arrangements (FWAs) within the Heavy Brigade Combat Team Project management office (PM-HBCT) in Warren, MI. The policies within PM-HBCT have allowed the use of FWAs for many years and many employees have participated in the program. For the last 20 years, there has been increasing evidence that FWAs benefit both the employer and employee. However, there has been little research on the factors that affect employees' decisions to participate in FWA. A 2005 WorldatWork survey found that employers appreciate increased productivity, retention rates, and employee morale while employees benefit by structuring their work life around their personal life. The objective of this research was to determine which workplace factors affect the use of FWAs by slightly modifying an electronic survey that was developed by Alysa Lambert for her dissertation on the same research topic. All civilian employees within PM-HBCT were invited to take the survey which consisted of five demographic, 29 close-ended, and three open-ended questions.

There were 101 participants that completed the survey. The 29 close-ended questions (quantitative data) were analyzed using descriptive research methods and the three open-ended questions (qualitative data) were analyzed using thematic analysis. Results from the survey indicated that 74 % of the participants believed their supervisor was supportive of their use of FWAs, 60 % felt their coworkers supported their use of FWAs, and 66 % agreed the organizational culture supported their use of FWAs. The results of this study identified recommendations to increase the workplace support for the use of FWAs in the organization and provided leaders, managers and supervisors with a greater understanding of the influence they have regarding the use of FWAs.



Employee Engagement: Analyzing the Rational and Emotional Commitment of the 554th Electronic Systems Group by Todd Green

The purpose of this study was to examine the employee engagement level of the 554th Electronic Systems Group (554 ELSG) as Wright-Patterson AFB, Ohio. For several years, employee engagement has been a hot topic for corporate executives because there is mounting evidence that employee engagement correlates to individual, group, and organizational performance in the areas of productivity, retention, turnover, customer service, and loyalty (Ketter, 2008). The researcher sought to measure the level of engagement by leveraging a survey instrument used by the U.S. Merit Systems Protection Board. All civilian employees of the 554 ELSG were invited to take the survey which consisted of five demographic, sixteen engagement-related, and two open-ended questions. The mixed method approach allowed for the collection and analysis of qualitative and quantitative data.

There were 101 respondents to the survey. The employee responses from the survey (including demographic data) were analyzed using descriptive research methods while the qualitative data was analyzed using thematic analysis. Findings indicate 42% of 554 ELSG employee were engaged which is nearly identical to the 41% for the overall Air Force. However, nearly one in four (23%) employees was not engaged compared to just 16% for the Air Force. Based on 554 ELSG survey responses, the core components of employee engagement needing improvement were: performance of leadership, managers, and supervisors; rewards and recognition, workload time and resources; sufficient opportunities to earn a high performance rating; making good use of skills and abilities; and meaningful work to the employees. The findings documented in this study helped identify recommendations to improve engagement in the organization and provided leaders, managers and supervisors with a greater understanding of the impact they have on the level of employee engagement.



The Effects of the Declining Domestic Commercial Automotive Industry and its Suppliers on Military Tactical Vehicle Acquisitions by Michael E. Loos

The United States commercial automobile industry, especially the domestic manufacturers and their part suppliers have declined in the past few years. The decline was drastic enough that the government provided a financial bailout to General Motors and Chrysler. The manufacturers that build military tactical vehicles share much of the same automotive parts supplier base used in commercial automotive and truck sectors. Consequently, the supplier decline could impact the ability of tactical vehicle Original Equipment Manufacturers (OEMs) to produce tactical vehicles. The decline in suppliers could impact cost, quality, technology innovation and delivery of military tactical vehicles. The purpose of this research is determine and assess the impacts of the decline in the US automotive industry on automobile suppliers that serve both the commercial and tactical vehicle market, and consequent impacts on cost, quality, technology, and delivery of tactical vehicles. The paper also assesses the national security risks created by the decline in US automobile industry suppliers.

The outcome of the study informs the Army's Tactical Vehicle Program Managers, and the Program Executive Officer, Combat Support and Combat Service Support of the impacts of the declining automotive supplier industry on their tactical vehicle programs.



Industry Technology Transition After the Expedited Modernization Initiative Procedure Event by Jim Loughridge

Ever since the end of World War II, when the US dropped the atomic bomb on Japan, the US has maintained the most technologically superior military in the world. However, today's military faces an unimaginable number of threats, which drives the speed of technology at reckless abandon. In 1983, Secretary of Defense Caspar Weinberger had the vision that the US was in danger of losing this technological leverage. He stated that the US needed to start developing new military technologies, which would not be seen for years. He saw a need to restore the relationships between the DoD, academia, laboratories, and industry.

However, there are problems transitioning technology. In one case, after a successful EMIP, the Project Manager for the Joint Combat Support Systems had neither funding nor permission to (1) Expeditiously Send Technology to Theater for Test nor (2) link technology to a current acquisition program. Furthermore, nearly all Project Managers and Product Managers have a 3% budget allocation for New Technology Development; however, the program office engineers are already overloaded with new technology projects and new technologies are usually the first source for budget cuts.

This research recommends: (1) high level sponsorship through a new TACOM LCMC Technology Transition Office, (2) synchronization and collaboration among TACOM LCMC Organizations, plus DAU Technology Transition Training, (3) linking technology to specific requirements through Requirements Generation Software, and (4) changing the funding for Technology Transition with the S&T Organization funding Basic Research and the program office funding Technology Transition.



Globalization of the Semiconductor Industry and use of Trusted Foundry for Programs in the 312th Aeronautical Systems Wing by Angelo Pietrantonio

Globalization has changed the landscape of semiconductor production from a U.S. dominated industry to an Asian dominated industry. First, Japan was able to surpass the U.S. in semiconductor production for the first time in 1986. As globalization of the semiconductor industry continued in the 1990s, Korea, Taiwan, and Singapore began to gain market share with China emerging as a dominant force in the 2000s for semiconductor production. Next, Taiwan and China built a market that now accounts for nearly three-quarters of microchip production. The U.S. now produces only about 20% of all computer chips and only 25% of the most advanced technology chips.

This shift to foreign production of semiconductors has potentially introduced significant risk to DoD weapon systems. The risks are; counterfeit chips, introduction of Trojan Horses, inability to maintain supply of critical parts during times of crisis, and the inability to assure design function without compromise. Today's weapon systems like aircraft, missiles, and radars are highly dependent on their computing capabilities. The potential risk from suspect or defective semiconductors may cause weapons to fail in times of crisis, or secretly corrupt crucial data. The problem has grown more severe as most American semiconductor manufacturing plants have moved offshore. Trends indicate that semiconductor design and production will become more globalized and risk mitigation strategies will become more difficult, if not impossible, to implement.

This study determines how aware USAF program managers are 1) of the trusted foundry facility 2) of congressional requirements to use a trusted foundry to fabricate custom designed integrated circuits; and 3) what steps they are taking to utilize a trusted foundry for semiconductor needs. This study also defines the effects of globalization on the semiconductor industry and its associated risks to the Department of Defense weapon systems. The results of this study will assist the USAF in determining the need for training and/or education in regard to the risks associated with semiconductors used with weapons platforms and the availability of

programs capable of assisting them in meeting congressionally mandated requirements, i.e., the use of the trusted foundry program. In addition, it can assist program managers in becoming proactive in managing semiconductor risks which in turn will prevent impact to weapon system operations. Weapon system operations are the ability of the weapon system to perform at its full capability without any limits or restrictions.



The Impact of the Modular Force Structure and the Two Level Maintenance on the Brigade Maintenance Costs by Robert Stovall

The Army, a long-trusted institution by the nation and its population, exists to serve the Nation. As part of the Department of Defense's joint force, the Army supports and defends America's Constitution and the American way of life against all enemies, foreign and domestic. The Army protects America's national security interests including forces, possessions, citizens, allies, and friends. It prepares for and delivers decisive military action in all operations. Above all, the Army provides combatant commanders with versatile land forces ready to fight and win the Nation's wars. The Army accomplishes this mission as a part of the overall joint force including the Air Force, the Marines and the Navy.

This research report analyzed the impact of the Army's conversion to the Brigade based Modular Force Structure and its conversion of the maintenance doctrine. Both changes represented the most dramatic change to take place to the Army in 60 years. The research report consisted of a questionnaire sent to Heavy Brigade Commanders, the three Combined Arms Battalion commanders in each Brigade and the Brigade Maintenance Technician. The second part of this research report centered on the OSMIS database to gain actual cost data used in the Army today.

The HBCT structure was selected because of the amount of maintenance required daily in this formation by soldiers to maintain readiness. Stryker Brigades were not considered because of the large amount of contract logistic support used in those formations. The Bradley A3 Fighting Vehicle was selected for the cost study because of all the modern platforms in the HBCT formation, the A3 has remained the most consistent in its design during the last ten years of its operational life.



Weapon Systems Acquisition at Aeronautical Systems Center: Are We Prepared to be Successful? by Stephen Ward

This research examines the criteria used to select personnel for program offices charged with the responsibility for preparing the documentation necessary for the solicitation of competitive bids for future weapon systems at the Air Force Aeronautical Systems Center. The paper addresses the question: What are the competencies required for those selected to write RFPs for competitive acquisitions for the United States Air Force?

Employees with the right competencies are the key to ensure RFPs written at ASC are of the highest quality possible to enable successful competitive procurements and successful award of contracts to get necessary equipment developed, produced and delivered to the warfighter in a reasonable time frame. ASC must do whatever is necessary to ensure high quality and consistency of the bid solicitations before they are released to obtain bids. The results of this study will provide actionable recommendations for policies and processes for the selection of personnel that are fully prepared and able to develop high quality RFPs, leading to successful contract award.

Class of 2011



Program Management at the Implementation Level -- Enablers and Obstacles to Timely Acquisition by Ross Boelke



Leading the Millennial Generation by Pamela Demeulenaere



Managing Army Capability Sets: A Systems Engineering Perspective by Robert Halle



Application of Integration Readiness Assessments to the Defense Acquisition Process by Diane McCarthy



U.S. Air Force Science and Technology Interactions with Acquisition Development Planning by Greg Rhoads



The Current U.S. Policy Concerning the Use of Weapon Systems, Munitions & Lasers by U.S. Special Operations Command in their Joint Operational Environment by Steve Turpen



Program Management at the Implementation Level -- Enablers and Obstacles to Timely Acquisition by Ross Boelke

The Defense Acquisition System is the management framework and process by which the DoD acquires weapon systems, material, and services. The system is predicated on adherence to centralized policies and principles but establishes the means for decentralized and streamlined execution of acquisition activities at the implementation level of the process. This approach is aimed at providing flexibility and encouraging management innovation where program management is performed while maintaining strict emphasis on program discipline and accountability of the managers involved in the process. The program manager is the individual primarily responsible for ensuring defense products in accordance with the guidelines established by the Defense Acquisition System.

The DoD 5000 Defense Acquisition System provides guidelines in the form of policies and procedures intended to support PMs management of their programs and meet, among other goals (i.e. cost, performance) acquisition timelines objectives. Despite these guidelines, DoD continues to get poor marks for responsive and timely delivery of defense capabilities. This research study sought a better understanding, at the program management implementation level of the process, what the enablers and or obstacles were to being able to achieve timeliness in acquisition and if the means provided program managers by the Defense Acquisition System effectively helped them reduce acquisition cycle time.



Leading the Millennial Generation by Pamela Demeulenaere

The purpose of this research was to gain an understanding of the millennial generation's significant differences in needs and expectations from the three other generations, generation X, baby boomers, and traditionalists currently in the workforce within the TACOM Life Cycle Management Command (LCMC), Warren, Michigan. The millennial generation is defined as those born between 1981 and 2000 and it is estimated that 25% of the United States workforce will be comprised of the millennial generation by 2011.

Three organizations within the TACOM LCMC, the TACOM Contracting Center (TCC), Integrated Logistics Support Center (ILSC), and Tank Automotive Research, Development and Engineering Center (TARDEC), have all been hiring a significant number of new civilian employees over the past several years; the combined current %age of employees in the millennial generation is at 18%. These organizations provide matrix support to the Program Executive Offices (PEO) located at TACOM. This research focused on the civilian workforce within the TCC, ILSC, and TARDEC. The researcher surveyed civilian employees within these organizations asking a variety of questions related to the importance they place on various factors within the workplace. The survey consisted of 7 demographic items, 37 factors within the workplace, and 6 open-ended questions. The leaders of these three organizations were interviewed to determine what they saw as the significant differences between the millennial generation and the other three generations in the workplace, and what they have done or plan to do to address these differences.

The survey was sent to 616 employees and 275 responses were received, 42% of the respondents were from the millennial generation and 58% from the three non-millennial generations currently in the workforce. There were findings supporting the literature regarding the difference in importance millennials place on certain factors as compared to the other generations; however, there were also findings where there was no significant difference among the millennials and the non-millennials.

The factors that were the most important to the millennial generation were having meaningful work, having opportunities for rapid career advancement, being able to obtain information quickly to speed up the completion of tasks, being offered professional development and growth opportunities, being offered paid training and tuition reimbursement, having a high degree of job security, being provided competitive compensation, and being provided competitive benefits. Each of these was rated by the millennials at an average of 4.2 or above and at least 50% of the participants selected the highest rating of a 5 (on a scale of 1 to 5). However, many of these factors were just as important to the non-millennial workforce. Of the 37 factors rated, the only ones that demonstrated a significant difference in mean scores at a 95% confidence level between the millennial generation and the non-millennial generations were having opportunities to pursue other career paths, having opportunities for rapid career advancement, being offered paid training and tuition reimbursement, being loyal to an organization, and having direct access to senior leaders.

The most enlightening aspect of this research was where the results deviated from the literature. The importance of having projects broken into discrete tasks, being provided daily or weekly performance feedback, and not being requested to work overtime were rated very low by the millennials, which was contrary to the literature. The literature also suggested that the millennials place importance on the use of social networking tools to perform their jobs. However, the millennial participants in this study rated this factor as the lowest of all of the factors being rated. The millennials valued the use of these tools as described in the open-ended questions, but apparently, not for the performance of the job.



Managing Army Capability Sets: A Systems Engineering Perspective by Robert Halle

Today's Army Acquisition Community focuses on the alignment of multiple systems acquired as system-of-systems packages. These systems are required to operate together to deliver the soldier a set of capabilities not possible from any single individual system. Often these individual systems are developed independently which presents unique management challenges for the program manager required to synchronize and align the systems within the capability set. In some cases these systems working together are referred to as "Capability Packages." Those management challenges extend to Army leadership who are required to assess development progress of each system and as a system of systems to determine the viability to yield the desired capability within the ever-changing world environment.

This research set out to examine how systems engineering was being used to work across the interrelationships between these multiple systems and if a unique series of systems-of-systems systems engineering processes and metrics would be required to support and enhance the management of the individual systems as well as the overarching system of systems and capability packages. As this research progressed a surprising result began to emerge from interviews conducted that systems engineering was not being used as widely as had been expected. Even though virtually all interviewed recognized the importance of systems engineering they shared that other higher priority acquisition challenges often arose that forced the transition of resources from systems engineering to more immediate challenges.

Another interesting result was that oversight of a single complex acquisition effort is hard. When looking across multiple complex systems that all must interface the problem become much worse. The manage processes used to shepherd system of systems and capability package programs through the acquisition process is still evolving. Most of those interviewed felt that the systems engineering must also evolve to meet the challenge of managing these complex acquisition programs. The conclusions summarize how systems engineering could evolve to meet the challenge of managing complex acquisition efforts that include system of systems and capability package programs.



Application of Integration Readiness Assessments to the Defense Acquisition Process by Diane McCarthy

Technology is advancing at a rapid rate and current war fighting strategy is also changing rapidly, but military ground vehicles are being used for longer lengths of time in service. The integration of emerging technology on to existing or new platforms will dominate current and future military vehicle designs creating possible system level negative effects and high risk from the technology integration. Currently, some Department of Defense (DoD) agencies are recommending the use of Integration Readiness Assessments early in the program. But what are they? Is DoD effectively using processes to identify and analyze integration risks early in the design phase?

This research explores what the methods the Army and Marine Corps currently use to assess integration risks, then interview several lead system engineers and program managers to report how they are analyzing these integration risks and is there a need and available resources for further integration assessments.



U.S. Air Force Science and Technology Interactions with Acquisition Development Planning by Greg Rhoads

Technology transition in the DoD refers to how technology that is developed in the Science and Technology (S&T) community progresses into weapon systems that the warfighter uses. The S&T funding is divided into three areas for developing technology: basic research, applied research and advance technology development. Technology progresses through basic, applied, and advanced before transitioning to an acquisition program that further develops the technology for use in the weapon system. There are exceptions where the S&T community starts working technologies at a later stage such as the applied research stage. This depends on how advanced the technology was when DoD started working on it.

Weapon system acquisitions have problems with technology development. The impact is the weapon system acquisition costs go up and delivery of the system is delayed from months to several years. The goal is to have a weapon system acquisition with minimal impacts from technology development. Development planning has been reinstated by Congress to help with this problem. Potentially, there is a synergy for the S&T community and development planning to provide an understanding of technology availability and maturity early in the acquisition lifecycle.

Technology transition has been a challenge whether technology sits on the shelf or is pushed prematurely into a weapon system. The revitalization of the development planning approach early in the acquisition lifecycle potentially could lead to more successful technology transitions to the warfighter and communication back to the S&T community on what technologies need to be developed for weapon systems. The strategy is to get the communication of capability requirements flowing both ways between the S&T and acquisition communities on technology needs and technology capabilities that can meet the weapon system requirements and keep the program on schedule and cost. This study explores whether development planning can accomplish bridging the gap between weapon system acquisition and S&T technology transition to the warfighter.



The Current U.S. Policy Concerning the Use of Weapon Systems, Munitions & Lasers by U.S. Special Operations Command in their Joint Operational Environment by Steve Turpen

This research paper is limited by DOD Statement Distribution F. Further dissemination only as directed by USSOCOM & OUSD(AT&L) (03/07/2011) or higher DOD authority.

Class of 2012



Using Emotional Intelligence to Lead the TACOM Workforce by Suzanne Archer



Leadership Styles of Men & Women by Jennifer Beffrey



Motivating and Retaining a Quality Multi-Generational Workforce by Ronald Bokoch



The Joint Center for Ground Vehicles: A Case Study of DoD Organizational Transformation Using Grounded Theory by Teresa Gonda



TACOM Leadership Skills for the 21st Century: An Employee Perspective by David Marck



Leading a Distributed Workforce: Virtual Leadership by Christopher Miles



Understanding Organizational Commitment and Satisfaction of TACOM LCMC AT&L Associates by Nancy Saxon



Recognizing the Need, Impacts and Benefits of Skillful Delegation in the Workplace by Cassandra Smith



Using Emotional Intelligence to Lead the TACOM Workforce by Suzanne Archer

As more companies enter into the service business instead of the manufacturing business, employees have become an organization's most important assets. This has led to a different focus on what is needed for good leadership. One increasingly important requirement for good leadership with these changes is emotional intelligence. This study surveys the senior leaders at TACOM to assess their self-reported emotional intelligence. The paper also examines the impact of the training programs currently offered to TACOM employees on their emotional intelligence.

This study focused on the emotional intelligence of TACOM senior leaders. There are 907 people in senior leadership positions, defined as being at a GS-14 or equivalent level and above, across five organizations at TACOM. The purpose of this study is to determine how emotionally intelligent the TACOM senior leaders are, and whether the leadership training being offered to these leaders increases their emotional intelligence. Factors such as leadership experience, gender, and military background were also examined to determine their effects on emotional intelligence.

Daniel Goleman's theory of emotional intelligence using five constructs-Self-Awareness, Self-Regulation, Motivation, Empathy, and Social Skills-provided the framework for this study. The findings of the research show overall TACOM senior leaders have effective emotional intelligence, with some areas that could be improved. Additional findings show that factors, such as the number of leadership courses taken and the years of leadership experience, have a statistically significant effect on emotional intelligence. Factors such as gender, age, and military experience do not have a statistically significant effect on emotional intelligence.



Leadership Styles of Men & Women by Jennifer Beffrey

This research focused on TACOM's civilian workforce. The researcher surveyed 1,000 civilian employees to assess the leadership skills of male and female leaders. The questions were directed toward employee satisfaction with their leader, leader related commitment, leader support and the ability for both leaders and subordinates to take charge of a given situation. The survey consisted of ten demographic items, 29 factors within the workplace, two open-ended and two direct preference or perceived difference questions relating to the gender of leaders.

The key factors were to identify the most significant differences in the leadership styles of male and female leaders at the TACOM LCMC; differences in employee satisfaction with male and female leadership styles; and the implications of these differences for employee motivation, commitment and for future leadership development.

The survey was sent to 1,000 employees and 188 responses were received; 64.5% of the respondents were male, 35.5% were female. The main finding was that there is no difference between the leadership styles of male and female leaders. It was also found that employees are marginally more satisfied with female than male leaders.

The most enlightening aspects were that the respondents felt that gender is not the real factor that makes for a successful leadership style. The associates surveyed responded that training, experience, and qualities both positive and negative could be found in either gender. Another enlightening aspect was how honest and forth coming the associates were in their open-ended comments. They felt comfortable sharing both the positive and negative insights from their experiences.



Motivating and Retaining a Quality Multi-Generational Workforce by Ronald Bokoch

The primary purpose of this research is to identify the rewards that most effectively motivate each of the four generations in the workplace at the TACOM LCMC. It identifies the rewards most valued by the workforce in general and the relative preferences for rewards across generations. Generations are defined as a group of people born over a single period of time who share a common set of historical events and collective persona. Although not designated by specific years, each generation lasts approximately two decades after which the next generation comes into being. There are four generations at work within TACOM today including the Traditionalists (also called Veterans) born before 1946, Baby Boomers born 1946-1964, Generation X born 1965-1980, and Generation Y or the Millennials born 1981-2000. Baby Boomers and Traditionalists comprise slightly less than half of the TACOM workforce, but only 43% of the overall U.S. workforce. Gen Xers and Millennials together are about half of the TACOM workforce, but comprise 57% of the U.S. workforce. Reward preferences are categorized by the four generational cohorts and the paper also identifies the rewards most preferred by the overall population. In addition, this research provides two other key viewpoints of reward implementation at TACOM; it identifies the rewards most utilized by supervisors and the workforce's perception of what rewards are being given. This research found that similarities exist with regard to reward preference across the generations; a generation gap was only found in one case. Based on the value assessments of the 28 motivational factors included, we found that the birth cohorts generally agreed on their relative importance. Meaningful Work, Health Insurance, Competitive Base Salary, and Promotions were consistently included in the top five most valued rewards across all four generational cohorts; only differences in regard to tuition reimbursement were considered significant. The data collected in this research study should provide key insights to the command's human resource managers. The Office of Personnel Management (OPM) expects about 40% of the Baby Boomers to retire in the next 5-8 years; this will require Gen X and Millennial generations to fill their shoes. The ability to attract and retain this talent pool is crucial to the continued success of the government workforce. Changes in the

reward system are one of the quickest and easiest ways to begin to change the culture of an organization. The more accurately managers can assess what motivates their employees, the more effective they will be at maximizing performance and enhancing productivity, decreasing absenteeism and turnover, and inspiring work beyond what is minimally required. The results of this study will allow managers to begin to formulate a reward system that attracts skilled workers, maximizes motivation, and reduces turnover. Workforce renewal and retaining quality employees are critical to TACOMs long term viability. Understanding reward preferences is a key part of accomplishing these goals.



The Joint Center for Ground Vehicles: A Case Study of DoD Organizational Transformation Using Grounded Theory by Teresa Gonda

The purpose of this action research case study was to identify key outcomes and insights of a seven year initiative within an Army Life Cycle Management Command (LCMC) in order to inform Army and DoD leadership on institutional transformation that can help lead to more affordable systems and improved efficiency.

The research was conducted using multiple methods. Data were gathered using interviews of senior leaders, focus groups of chief engineer level leaders, Failure Modes and Effects Analysis, archival data, a review of the scholarly literature on organizational transformation, DoD documents, and the observations of a participant observer action researcher.

While individual leadership skills are an important factor in transforming organizations, this research suggests that if DoD wants to make significant progress to address affordability and efficiency, it will take more than pushing harder on leaders to collaborate and look for efficiencies. This study indicates that in order for collaborative behavior to occur, there needs to be three conditions: collaborative leadership, enabling mechanisms, and a supportive environment.

The case study portrays a group of organizations attempting to do just that. The vision is to create a *virtual business* across Program Executive Offices (PEO) of ground systems in DoD (along with the associated stakeholders) in order to support the Army and DoD in creating the right environment for efficiencies and integration across a particular portfolio (or domain) of systems - while not interfering with existing reporting authorities. The intent is to create a collaborative ecosystem to support shared systems analysis, domain portfolio analysis, and systems of systems integration. The data supports that the concept is already starting to show results, although it is still new and under development and the transformation process is stalled and showing signs of frustration.

The results of this second order transformation suggest that *how* the transformation process is managed is just as important as making sure *what* an organization is transforming into

contains the right integrative structures. The study suggests that in order for the transformation to be successful and collaborative behavior to occur, the enabling mechanisms must be collaboratively and purposefully designed using best practices found in the field of organizational development and the future state design must be implemented via a structured tailored change process where it is treated as a program with a transformation management office supported by experienced empowered change facilitators who can see the process through to completion and provide sense-making along the way.



TACOM Leadership Skills for the 21st Century: An Employee Perspective by David Marck

The purpose of this research is to see if the employees at TACOM LCMC agree that their leaders possess the skills, as identified in this research paper, needed to lead the organization in the 21st century. It is not the intention of the researcher to validate or verify the research completed by any prior Senior Service College Fellows (SSCF) class. The skills were identified from a literature review that shows what skills are needed to lead a 21st century global organization. This research focuses on TACOM employees at the GS-13 (or equivalent) level and below. The researcher surveyed civilian employees within four organizations at TACOM. The survey consists of 45 questions that address each of the skills identified in the research literature, one question to rank the skills, one open ended question and 5 demographic questions.

The survey was sent to 1200 employees. Since the minimum sample to ensure a 95% confidence level was 292, the survey was sent to 300 employees of the four organization listed above. The researcher received 381 responses of which 373 were complete responses that met the criteria for the study. This represented a 31% return of completed surveys that met all the research criteria. Of the four organizations surveyed, the largest return was from PEO CS & CSS with 141 (38%) responding. The ILSC was next with 97 (26%) responding followed by the TARDEC and PEO GCS with 72 (19%) and 63 (17%) respectively responding.

The skills that were evaluated were vision, integrity, mentoring, communication, delegation, emotional intelligence, change management, rewards, time management and teaming. The evaluations were conducted in total, by organization, by gender, by experience and by education level. All evaluated data was validated with the personnel department at the TACOM LCMC to ensure it was representative of the four organizations surveyed. There was a total population of 4478 within the four organizations. The responses were statistically representative of each organization as a whole.

The responses from each organization for each of the 45 questions were more often than not positive. Overall, each organization rated their leaders positively stating that they agree that

their leaders have the skills needed to lead their organization in the 21st century. The average positive response rate was in excess of 70% for each skill evaluated. However, the TACOM LCMC will need to address the 20%-30% negative response rate for some of the organizations.

The skills ranking section of the survey clearly and consistently showed that the top three skills that the employees believe their leaders need in the 21st century are Change Management, Mentoring and Vision. These three skills, ranked from 1-10, were separated by 2 points from the rest of the skills ranked. This ranking was consistent regardless of organization or gender. However, it was also consistent with what my literature review confirmed are the most important skills need in the 21st century. This literature suggested that the successful leaders must possess a vision that will lead their organization into the 21st century. They must be able to endure the turmoil that exists in today's corporate world. Being able to lead an organization through change is critical in surviving in today's global business environment. Finally, they must be able to groom their successor to someday lead the organization.



Leading a Distributed Workforce: Virtual Leadership by Christopher Miles

How to build an effective team is one of the most significant leadership questions of the day. Virtual teams drive an all-encompassing and important decision-making process in a broad range of organizations and in all sectors of the economy. Therefore, gaining a better understanding of how to lead virtual teams is of critical importance to TACOM leadership.

Leading a virtual team is of growing interest to the leadership at TACOM because of the significant increase in the number of virtual teams that are being relied upon to fulfill TACOM's mission. The challenges of leading virtual teams are readily apparent when contrasted with the advantages of traditional teams. Traditional team settings provide more opportunities for communication, impromptu meetings, a greater sense of connection and trust with team members.

Effective virtual teams require more than just technology, although technology gets most of the credit for the emergence of virtual teams. The literature reveals that the driving factors behind virtual teams are the globalization of the world economy, hyper competition, worker demands, the increasing sophistication of technology, the move toward more knowledge work, and potential cost savings.

This research study is important to both industry and government organizations that are currently using virtual teams. A better understanding of how virtual teams are managed and led is needed at TACOM because of the complex products that are generated and deployed utilizing multidisciplinary teams. The intent is that this study will provide empirical evidence to determine whether the leadership skills needed to lead a virtual team are the same as the skills needed to lead traditional teams. The knowledge gained from this research will benefit the TACOM Acquisition Workforce, other government and private organizations in general. This may lead to better team management and a more effective use of virtual teams.

The basic findings in this research show that leadership skills of virtual teams are a crucial component in that teams effectiveness. However, when compared to leaders of traditional teams, virtual team leaders face the following difficulties: (a) logistical problems, including

coordinating work across different time zones and physical distances; (b) interpersonal issues, including an ability to establish effective working relationship in the absence of frequent face-to-face communication; and (c) technological difficulties. Considerable research was conducted, which included interviews with current team leaders and the analysis of 500 surveys of various TACOM employees. There were a number of key themes which emerged that contributed to effective virtual team leadership; clear communication, trust among team members, setting of goals and objectives, and understanding that every team is different.



Understanding Organizational Commitment and Satisfaction of TACOM LCMC AT&L Associates by Nancy Saxon

This study focused on the job satisfaction and organizational commitment of civil service workers employed at the U.S. Army Tank Automotive Command (TACOM) located in Warren, Michigan. TACOM employs 6,739 employees in Warren with a wide range of acquisition skills. The purpose of this study is to compare the levels of job satisfaction and organizational commitment among Acquisition, Technology, and Logistics (AT&L) associates at TACOM hired within the last five years, with and without private industry experience.

This mixed method research study examined the factors that correlated to job satisfaction and organizational commitment, and identified potential new factors that may be important to the AT&L workforce. Maslow's motivational theory, the factors of: Relevance or Meaning of the Job, Growth and Development Opportunities, Supervisor Support/Satisfaction, Feelings Toward Co-Workers, Job Security, Pay, and Benefits, provided the theoretical framework for the study. Because job satisfaction and organizational commitment are critical to retaining employees, understanding the factors that contribute to satisfaction and commitment provides the foundation for effective retention policies.

The research study uses a conceptual model which relates job satisfaction and organizational commitment to Maslow's Hierarchy of Needs and Meyer and Allen's theory of organizational commitment. The findings of the research show that elements of normative and affective commitment are being perceived differently by those employees with and without private industry experience. Additional findings show that factors such as pay, benefits, growth and development opportunities, relevance or meaning of the job, and job security affect the levels of job satisfaction for those with and without private industry experience significantly different.

The research survey contained seven open-ended questions which were coded by the researcher into several significant factors. The meaning or relevance of the job appeared to be the single most important factor in determining both job satisfaction and organizational commitment.

There were new factors revealed from the qualitative question on what TACOM could do to improve job satisfaction. Some of these new ideas were to increase accountability of fellow associates, increase the number of warfighter visits, and control wastefulness.



Recognizing the Need, Impacts and Benefits of Skillful Delegation in the Workplace by Cassandra Smith

Effective delegation is an essential component of a manager's job. It is a critical leadership skill for improving the efficiency and motivation of supervisors and employees. This study examines delegation practices by senior leaders at TACOM LCMC. A significant part of the project examined why leaders do not delegate and the extent to which these factors exist within the TACOM LCMC community. The research is important because it underscores and reinforces the critical role delegation plays in the success of organizations. The findings are based on surveying civilian (GS-14/ NH 04 and above), and military leaders (O5, Lieutenant Colonel, and above). The methodology used to collect data for this research was mixed methodology consisting of both quantitative and qualitative approaches. The data were collected through survey to 710 participants at the TACOM LCMC through web-based Survey Monkey software. The main findings from the research were 70% of senior leaders responded that they *routinely* delegate and 20% responding that they delegate *often*. The remaining 10% was split among *sometimes*, *rarely*, and *not at all*. The factor rated highest by senior leaders when considering delegating responsibilities was that the responsibility fell within the employee's job duties. When leaders choose not to delegate, key reasons cited were too much up front work, prior bad experience, guilt of increasing subordinates workload, and too much monitoring required. Only "bad experience" showed a statistical difference between those leaders having 31-45 direct reporting employees, and those with over 45 direct reports. The research findings also show that the method of delegation (e-mail, telephone, face to face and 3rd party stakeholder) does not have a statistically significant impact on leaders' motivation to delegate.

Class of 2013



Impact of Mentoring on Civilian Leadership Development at the Detroit Arsenal by Cathy Atherton



Effectiveness of Matrix Organizations at the TACOM LCMC by J. Scott Baumgartner



Evaluation of Change leadership Skills at TACOM by Geri BoBo



Transformational Leadership and its Relationship to Job Satisfaction at Army Contracting Command - Warren by Brian Corrigan



Understanding Alignment of Trust Behaviors and Their Effect on Organizational Trust at the TACOM LCMC by Anthony Desmond



Knowledge Management Maturity within TACOM LCMC by Kristopher Miciura



An Investigation of Collaborative Leadership by Keith Schweizer



Understanding Best Recruiting Practices in Literature and at the TACOM LCMC by Colleen Setili



The Impacts of Cultural Differences on the Importance and Effectiveness of Leadership Styles, Skills, Traits and Power by Ray Williams



Impact of Mentoring on Civilian Leadership Development at the Detroit Arsenal by Cathy Atherton

The Army begins teaching its Soldiers about leadership from day one. The Army values of loyalty, duty, respect, selfless service, honor, integrity and personal courage are summed up in the acronym of LEADERSHIP. This is in contrast with the civilian side of the Army where employees spend years learning primarily the technical aspects of their jobs and training through the Defense Acquisition University (DAU) to be certified at various levels of knowledge and expertise. Only when they are promoted into team leader or supervisory positions do they receive any formal leadership training.

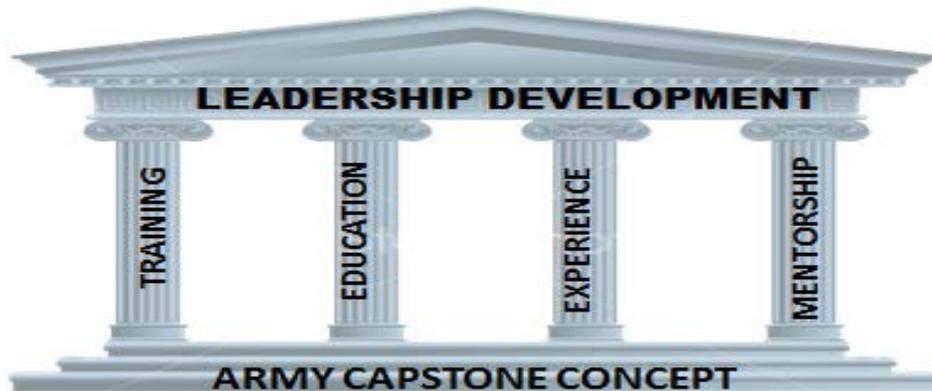
Courses within the Civilian Education System (CES) are generally perceived as effective in developing the leadership skills of Army civilians. Recent graduates rate the Advanced Course, Management Development Course, Intermediate Course and Basic Course as effective in improving leadership capabilities. However, many civilians (43%) believe that their CES course came too late for its intended purpose. (Riley, 2012, page v.)

In order to ascend to the leadership level as an Army civilian, an employee has to understand and develop expertise through experience in multiple areas from technical ability and the soft skills required to lead others. As defined in the DoD Civilian Leader Development Framework (DoD CPMS) there are seven leader development core competencies and their supporting competencies to include: Leading Change, Leading People, Results Driven, Business Acumen, Building Coalitions, and Enterprise-wide Perspective.

While some of these can be classified as technical or learned on the job skills, a number of these can be developed or improved through mentoring with a senior leader. Mentoring has been identified as an important influence in professional development in both the public and private sector (OMB, 2008, p.2). In the Army civilian workforce, mentoring has been a hit or miss proposition. There have been mentoring guides, handbooks and best practices published and publicized to provide guidance on how best to mentor the workforce. In addition, to further address improvement of the government workforce, on October 30, 2004, the President signed the Federal Workforce Flexibility Act of 2004, Public Law 108-411, into law (OMB, 2008, p.2). One element of this public law requires agencies...to provide training to managers on mentoring employees (OMB, 2008, p.2).

When it comes to leadership development, Mentoring is considered one of the “pillars” in the overall process. In a briefing to the Senior Service College Fellows on July 26, 2012, LTG

Bill Phillips discussed the subject of developing the workforce for success. The pillars of support for leadership development were presented as the Army Capstone Concept. Other pillars in the development structure include training, education and experience (Phillips, 2012.) Through the effective utilization of these pillars, Army civilians are able to build upon their knowledge as they move forward in their careers.



However, the development and execution of formal mentoring programs has been left up to the discretion at the organizational level. Based on a number of the comments received in the survey related to this research, many see formal mentoring programs as only for the select few and not widely available to the majority of the workforce.



Effectiveness of Matrix Organizations at the TACOM LCMC by J. Scott Baumgartner

Organizations in the aerospace and defense industries have implemented the matrix structure extensively to reduce resource requirements, and achieve multiple simultaneous goals. The matrix structure is found in most large companies that deal with more than one product or geographic region. The potential for efficiency gains and increased customer satisfaction have made this an attractive organizational structure for most industries. However, implementation of the matrix structure has proven to be difficult and results have been mixed. This paper will identify the characteristics of an effective matrix organizational structure: compare those characteristics with those of matrix organizations at the Tank-Automotive and Armaments Command (TACOM) Life Cycle Management Command (LCMC), and identify opportunities to increase the effectiveness of matrix structures at TACOM LCMC.



Evaluation of Change Leadership Skills at TACOM by Geri BoBo

In these times of dynamic change and increasing demand to do more with less, leaders who are skilled at leading, championing change, and transforming organizations will be in high demand. Unfortunately, few leaders have been trained in skills for leading change. This research is designed to determine the extent to which employees believe TACOM supervisors possess these change, or transformational, leadership skills; if these skills vary across organizations at TACOM; if employees' experience, educational level, age, and gender affect their views of their leaders' transformational skills

The survey was sent to the TACOM LCMC workforce based at the Detroit Arsenal within seven organizations – Integrated Logistics and Support Center (ILSC), the Tank Automotive Research, Development and Engineering Center (TARDEC), the Program Executive Office for Ground Combat Support (PEO-GCS), the Army Contracting Center – Warren (ACC-Warren), Installation Management Command (IMCOM), the Program Executive Office for Combat Support and Combat Service Support (PEO-CS&CSS) and the TACOM Staff. Analysis of the completed surveys shows there is a difference in perceived transformational leadership skills across several demographics.



Transformational Leadership and its Relationship to Job Satisfaction at Army Contracting Command - Warren by Brian Corrigan

This research focused on the non-supervisory workforce at Army Contracting Command – Warren, located in Warren, Michigan. The researcher surveyed 530 employees within this organization to determine if transformational leadership skills impact the employee’s job satisfaction. Employee’s generation, prior industry experience and years of government contracting experience were utilized to determine if they moderate the impact of transformational leadership on job satisfaction.

The main finding was that there is a direct correlation between transformational leadership and job satisfaction. For every two points on the scale that the transformational leadership increased, job satisfaction increased by one point. There was no statistically significant difference in the scores based upon the moderating variables of generation, prior industry experience or years of government contracting experience.



Understanding Alignment of Trust Behaviors and Their Effect on Organizational Trust at the TACOM LCMC

by Anthony Desmond

Trust is a social phenomenon that makes work within organizations easier and collaboration between organizations possible (Lane & Bachmann, 1998). Behaviors that engender trust are key components in building and maintaining organizational trust (Covey, 2006); and lead to increased perceived effectiveness and job satisfaction (Shockley-Zalabak, Morreale, & Hackman, 2010).

The purpose of this study is to determine if the presence and alignment of behaviors that build trust lead to higher levels of trust within, and among organizations at the TACOM LCMC. A conceptual model of alignment of behaviors and their effects on organizational trust may be developed by examining the behaviors that create organizational trust. The Covey trust behavior dendritic is a convenient breakdown of 13 behaviors that, if exhibited at a high level, engender trust between parties. These behaviors are defined as (a) talk straight; (b) demonstrate respect; (c) create transparency; (d) right wrongs; (e) show loyalty; (f) deliver results; (g) get better; (h) confront reality; (i) clarify expectations; (j) practice accountability; (k) listen first; (l) keep commitments; and (m) extend trust. A combination of trust theory and congruence theory indicates that high alignment of trust behaviors between parties may lead to higher levels of actual trust between the parties. The research will determine if trust-building behaviors exist in TACOM organizations, and if a high degree of alignment of those behaviors correlates to higher trust within and between organizations.

The primary objective of this research is to identify the levels of trust behaviors and the degree of alignment of these trust behaviors among LCMC organizations to determine if the alignment of these trust behaviors leads to greater levels of trust among organizations at TACOM. The primary outcome is to identify initiatives TACOM leadership can take to increase the level of trust among organizations, with resulting increases in employee initiative, open communication, information sharing and collaborative innovation, as well as reductions in transactions costs.



Knowledge Management Maturity within TACOM LCMC by Kristopher Miciura

The purpose of this research is to gain an understanding of how well the Detroit Arsenal and its organizations are managing the knowledge that is possessed by its associates. Globalization is rapidly changing the way we communicate, utilize knowledge and remain competitive within the world. It is crucial for one to understand the maturity of an organization and how it ranks in Knowledge Management (KM) culture, strategy, competence and metrics to effectively lead the organization into utilizing and sharing its collective knowledge to the maximum extent possible. The Knowledge Management Institute's model for maturity was used to develop a survey instrument that concentrated on the four principles of effective KM: culture, strategy, competence, and metrics. This survey instrument utilized the SurveyMonkey application and received 437 responses out of a population of 5,988 associates at the Detroit Arsenal. Through this research and analysis of the data, each organization was measured and compared regarding how well their KM strategies are being implemented.

The research determined that there was statistical significance in terms of how each organization viewed itself in terms of KM maturity. It further identified the maturity of each organization at the Detroit Arsenal and the TACOM LCMC as a whole. Most organizations ranked in terms of KM maturity between 2 (indicating there is sharing within parts of the organization and KM strategies and champions are emerging) and 3 (indicating that sharing is being completed, a KM plan and strategy are in place and champions are leading initiatives) on a 5 point scale.

An organization's leadership and associates can use these results to modify their approaches to effectively implement a KM strategy. The research concluded with recommendations in terms of how each organization and the TACOM LCMC can implement KM initiatives to effectively improve their maturity and their efficiency in managing their knowledge.



An Investigation of Collaborative Leadership by Keith Schweizer

This research is to explore and measure the collaborative leadership style that currently exists at the Tank-Automotive Command (TACOM) Life Cycle Management Command (LCMC). It will also look at collaboration barriers and collaborative opportunities.

The four main questions answered by this research are:

- (1) What is the current collaborative leadership style among organizations at the TACOM LCMC?
- (2) Is there a difference in perception of collaborative leadership style between the workforce and leadership?
- (3) What opportunities exist to make collaboration more valuable at TACOM LCMC?
- (4) What are the barriers that diminish the value of collaboration at TACOM LCMC?

Research has shown if an organization wishes to maximize time, talent and tools to create value it requires the culture of collaboration (Rosen, 2007). Aligning organizational strengths combined with the right skills will create efficiency. Additionally, strong collaborative skills increase natural enthusiasm across an entire organization, and leverage effectiveness of all relationships supporting a healthy environment that is accepting to change, shared decisions, creative problem solving, and more trust across the organization (Tamm, Luyet, 2004). Research has also shown that a balanced approach may be an appropriate path in that not all collaboration creates value. Specific collaboration barriers and opportunities can be targets that produce the most benefit. (Hansen 2009)

The study was conducted using quantitative and qualitative research to identify and assess the collaborative leadership styles at TACOM LCMC. Data were collected via a survey and personal interviews. The level of collaborative leadership that exists was measured, barriers were identified and recommendations of what opportunities exist to increase the effectiveness of collaboration were documented.



Understanding Best Recruiting Practices in Literature and at the TACOM LCMC by Colleen Setili

Utilizing effective recruiting practices is essential to obtaining qualified people in today's competitive market for skilled employees. The quest to attract top talent for an organization is a major concern for both private and public entities. It is extremely important to ensure that the skills and competencies each person brings to an organization are optimal, especially in times of downsizing when the staff is lean and a company has to do more with less. Organizations also want to avoid the financial and expense of hiring the wrong candidate.

This study was designed to determine the extent to which recruiting practices identified in the literature are utilized by the major organizations located at the TACOM LCMC in Warren, MI, to determine the satisfaction with current recruiting practices at the TACOM LCMC, and to make recommendations for accelerating the adoption of best recruiting practices at the TACOM LCMC. This study utilized a mixed method survey to gauge both utilization and satisfaction within various steps of the recruiting process at the TACOM LCMC. Recommendations from the findings include ensuring that a policy is in place, is readily available for all to review, and is reviewed and updated on a regular basis. Other recommendations were taking advantage of any training opportunity or help that is offered and available to include the OPM website; researching incentives that could be offered; taking steps to ensure that USA JOBS is more readily understood and easier for applicants to apply; and communicating to the workforce when new job openings are posted and post recurring status of the position. Suggested additional research on recruiting practices include concentrating on one organization through-out the multi-step process, or interviewing new hires to ask their opinion of their recruiting experience.



The Impacts of Cultural Differences on the Importance and Effectiveness of Leadership Styles, Skills, Traits and Power by Ray Williams

This research focused on the General Dynamics Land Systems North American employees in North America the Middle East and Asia Pacific. The researcher surveyed 300 employees within this organization to determine the impact of culture on the importance of leadership styles, skills, traits, and powerbases. The twenty-two quantitative questions were related to culture, leadership styles, skills, traits, and powerbases. There were two questions on culture, and five questions each (total of twenty questions) on leadership styles, skills, traits, and powerbases. There was one open-ended qualitative question on leadership. The survey also included questions in regard to the employee's gender, generation, region of employment, region of citizenship and highest level of education with a degree. These factors were utilized to determine if they moderate the impact of culture on the importance of leadership styles, skills, traits, and powerbases for North American employees working in North America and North American employees working in the Middle East and Asia Pacific.

The survey was distributed to 300 employees and 195 responses were received. Of the 195 responses only 180 completed the survey, and these responses were used for the statistical analysis.

The main finding was that there was no statistically significant difference in the scores of preferred leadership styles, skill, traits, and powerbases of North American employees working in North America and North American employees working in the Middle East and Asia Pacific.

Class of 2014



Competencies of DoD Program Managers by Anthony Budzichowski



An Assessment of TARDEC's Utilization of the Processes, and Availability of Tools and Physical Environments that Promote Innovation by Deborah Dicesare



The Impact of Potential Budget Reductions on Continuous Process Improvement at TACOM LCMC by John Engbloom



The Impacts of the Fiscal Year 2013 Furlough on the Army Acquisition Workforce by Jack Spielman



An Investigation of Climate, Behaviors and Culture and Their Effects on Organizational Innovation at TARDEC by Marta Tomkiw



Competencies of DoD Program Managers by Anthony Budzichowski

This research examined whether DOD acquisition program success improves for those programs being managed by personnel that completed an engineering degree program, an advanced non-technical degree program, or a Senior Service College Military Equivalent Level-1 (MEL-1) program. The study also examined whether program technical complexity has an impact on program success.

The research employed a mixed methodology approach using an on-line survey via Survey Monkey to collect data. The survey contained quantitative and qualitative questions. Electronic distribution of a link to the survey was made by e-mail distribution to 251 DOD program managers that completed the Advanced Program Managers Course (PMT 401) at the Defense Acquisition University across all services, and to 78 Department of Army program managers across all Army Program Executive Offices (PEOs).

The findings from the study were that there were statistically significant differences in program success due to the effects of holding a technical degree, the effects of holding an advanced non-technical degree, the effects of completing a Senior Service College Military Equivalent Level-1 (MEL-1) program, and the effects of technical complexity. However, the inferential statistical analysis using analysis of variance (ANOVA) results in all cases were mixed as were program manager opinions on the effects of completing an engineering degree program, an advanced non-technical degree program, or a Senior Service College Military Equivalent Level-1 (MEL-1) program.

The final recommendations were that: completion of an engineering degree program should not be an important factor for selecting future program managers, completion of an advanced non-technical degree should be considered as one of the factors for the selection of program managers, completion of an SSC program should be considered as one of the factors for selecting a program manager for overseeing an ACAT I program, and technical complexity should be used as a factor for considering whether to select a program manager with an engineering background for overseeing highly technical ACAT I programs. Finally, it was recommended that the Army institute a new Acquisition Service College using a model similar to the Defense Acquisition University (DAU) Senior Service College Fellowship Program geared towards mid-career Acquisition Corp members with eight to twelve years of service to provide the skills necessary to oversee the Army's increasingly complex weapons system acquisitions.



An Assessment of TARDEC’s Utilization of the Processes, and Availability of Tools and Physical Environments that Promote Innovation by Deborah Dicesare

A perception exists in the Army that the research and development laboratories are not innovative. The lack of innovation is cited in the Army Science Board Fiscal Year 2012 Study titled *The Strategic Direction for Army Science and Technology*, and in the Report of the Defense Science Board Task Force on Basic Research, (Army Science Board, 2013) (Defense Science Board, 2012). Specifically, the Army Science Board study states, “the study found that the Army lacks a S&T strategy and investment plan to meet likely future challenges, improve the transition of technology and advanced capabilities to acquisition, seize valuable technological opportunities, and foster invention and innovation (*The Strategic Direction For Army Science and Technology*, 2013, p. iii)”. The Defense Science Board Task Force found, “that the overall level of innovation within DOD is falling short of what should be possible and what would be desirable (*Defense Science Board Task Force on Basic Research*, 2012, p. xiv).” In addition, the need for innovation was discussed by Army Senior Leaders at the Association of the United States Army (AUSA) annual meeting in October 2013. Specifically, Lieutenant General (LTG) Walker articulated the need to look at rebalancing Army science and technology (S&T) to focus on investing more in innovation so that the Army can do what it needs to do and has the tools it needs in the 2030-2040 timeframe (*Association of the United States Army*, 2013).

Many different definitions of innovation exist. As such, there is not one standard by which to assess innovation. Some examples follow.

- Innovation is “invention which has reached market introduction in the case of a new product, or first use in a production process, in the case of a process innovation (Utterback, 1971, p. 77)”.
- “As P&G’s Dr. Mike Addison put it at a Connect and Develop Symposium in February 2003, ‘Innovation is all about making new connections. Most breakthrough innovation is about combining known knowledge in new ways or bringing an idea from one domain to another’ (Dodgson, Gann, & Salter, 2006, p. 337)”.
- Innovation is “breakthrough products, services, and solutions that create growth engines for the future (Cooper, *Winning at New Products*, 2011, p. 4)”.

- The Organization for Economic Co-operation and Development (OECD) says innovation can be defined as “new products, business processes and organic changes that create wealth or social welfare. (Vaitheeswaran, 2007)”
- Richard Lyons, the chief learning officer at Goldman Sachs, an investment bank, offers a more condensed version: “fresh thinking that creates value” (Vaitheeswaran, 2007).”

Respondents to this survey were told that “the act of innovation leads to something original that creates value”, which is a common thread in many of these definitions. Regardless of the definition, best practices in innovation processes, tools, and the physical environment are critical to the process of innovation.

The purpose of this study is to determine whether the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) utilizes the processes, and has the tools and physical environments that effectively promote innovation. Note, having the tools and physical environments that promote innovation do not mean that they are effectively utilized.



The Impact of Potential Budget Reductions on Continuous Process Improvement at TACOM LCMC by John Engbloom

This research examined the impact a 20% reduction in funding will have on CPI/LSS progress at TACOM LCMC. Additionally, the research studied if a slightly less (10%) or a slightly greater (30%) reduction has a different impact on CPI/LSS progress and if the impacts are moderated by the current state of CPI/LSS planning and implementation maturity. This research employed a mixed methodology. Quantitative and qualitative data were collected to analyze the impacts of budget cuts on CPI/LSS progress, determine the long term impacts of reductions on CPI/LSS progress, and capture mitigation actions that help reduce risks to CPI/LSS progress.

Significant findings indicate that funding reductions of 20% will have an impact on CPI/LSS progress, and there is a statistically significant difference in the impact a 10%, 20% and 30% reduction has on CPI/LSS progress. The state of maturity does not moderate the impact a reduction of 10% will have on CPI/LSS progress. However, the state of maturity does moderate the impact reductions of 20% and 30% have on CPI/LSS progress.

Qualitative research revealed leaders have already started to divest CPI/LSS resources in response to budget cuts slowing progress and reducing the number CPI/LSS designated staff.

The research identifies consequences of the budget cuts and mitigation actions to reduce the adverse effects of budget cuts.

The research concludes projected funding reductions will have an adverse impact on CPI/LSS progress at TACOM LCMC. The research finds future CPI/LSS progress will depend on leadership's willingness and the strategy used to support it.



The Impacts of the Fiscal Year 2013 Furlough on the Army Acquisition Workforce by Jack Spielman

This research examined the impacts of the FY13 Furlough on the Army Acquisition Workforce within the TACOM-LCMC community. It tested the hypotheses (H01): The number of Acquisition Workforce hours lost during the period of furlough is the same as the reduction of hours directed by the SECDEF and (H02): The productivity of the Acquisition Workforce during the period of furlough is equal to pre-furlough levels.

A survey was sent to members of the TACOM-LCMC community asking them a series of questions regarding the effects of the FY13 Furlough on their level of effort and productivity during the periods before the furlough was announced, when it was announced but not implemented, when it was implemented, and the immediate 90 days after the furlough. From this community, 1,132 people consented to participate in the research survey.

The major findings from this research show that while there was a small increase in the level of effort during the period when the furlough was announced, the level of effort decreased once the furlough was implemented. There was also an accompanying decrease in productivity. However, in the 90 days immediately after the furlough, the workforce's productivity returned to its pre-furlough level.



An Investigation of Climate, Behaviors and Culture and Their Effects on Organizational Innovation at TARDEC by Marta Tomkiw

Innovation is a form of change that provides value to a person, organization or company. It is believed based on decades of research that innovation is most often seen in organizations where the climate, employee behavior and organizational culture enable innovation to occur. Organizational climate, employee behavior, and organizational culture may also act as barriers to innovation. The purpose of this research is to determine the extent to which current organizational climate, behavior, and the culture at the United States Army Tank-Automotive Research Development and Engineering Center (TARDEC) promotes innovation. It will identify existing barriers and opportunities based on prior research conducted over the last 50 years on the effects of organization climate, behavior, and organizational culture on innovation. The three main questions answered by this research are;

- RQ1: To what extent does TARDEC have an organizational climate conducive to innovation?
- RQ2: To what extent is employee behavior at TARDEC conducive to innovation?
- RQ3: To what extent does TARDEC have an organizational culture that is conducive to innovation?

Research indicates an organization is motivated to innovate if it places an explicit value on innovation. Such organizations are oriented toward risk taking rather than maintaining the status quo. Organizations that are innovative take a proactive approach to change. Organizations recognize employees' capabilities, give them opportunities to be creative, collaborate through open communication, and encourage diversity in teaming. Innovative organizations take risks and allow employees to fail as a part of the innovation process, viewing each failure as an opportunity to learn.

The primary issue is whether TARDEC's organizational climate, employee behaviors, and organization culture promote the innovation needed to meet the challenges of the battle field of the future. Data were collected from an on-line survey completed by 110 TARDEC Associates representing all professional career fields. This survey captured the perceptions of the TARDEC workforce on the importance their organizations place on innovation, their view of the current climate for innovation, and the impacts of their personal behavior on innovation. Lastly, the survey gathers perceptions of organizational culture within the Laboratory in support of organizational priorities, and decision making that promote innovation.