2014-2015 SSCF Huntsville Abstracts

"Cybersecurity within Department of Defense Acquisition"
By Jeff M. Burnett

Note: Research paper is approved for Distribution Statement D – Distribution authorized to U.S. Department of Defense (DoD) Components, DoD Civilians / Uniformed Personnel, and DoD Contractors only

Technology developments and our ability as a nation to communicate and process information in a digital form have led to vast improvements in access and utilization of information for both economic and military purposes. Through globalization, our nation's Military and Department of Defense (DoD) acquisition programs operate under constant pressure from cyber-attacks. Although DoD has taken the cybersecurity threat seriously, there are still areas within the acquisition realm that require focus. From a cybersecurity perspective, DoD is currently not achieving the desired acquisition outcomes. The purpose of this research is designed to gauge the awareness, application, and impact of cybersecurity within DoD Acquisition.

"How Do Army Programs Measure Cybersecurity?"
By Sam Chard

Note: Research paper is approved for public release

American warfighters using complex systems to process, transmit, and receive information to gain advantages and defeat enemies in numerous operational contexts are increasingly vulnerable to cyber-attacks. These attacks may degrade informational advantages making the systems less effective or possibly render some systems ineffective. Current and emerging cybersecurity guidance encourages initiation of cybersecurity efforts as early as possible and integration into acquisition processes including test and evaluation practices. To meet cybersecurity objectives to attain information confidentiality, integrity and availability, the acquisition community needs to devise cyber requirements and evaluate cybersecurity effectiveness. The research interviews herein as well as the exploration of information and literature pertaining to cybersecurity in product development sought to understand the cybersecurity environment and discover how the Department of Defense (DoD)'s cybersecurity stance continues to evolve as it relates to measuring the effectiveness of cybersecurity efforts.

"Reducing Weapon Systems Acquisition Time and Cost by Applying Lean Development Principles"
By Larry R. Gunter

Note: Research paper is approved for public release

There have been 24 major reviews of the acquisition systems since 1960. Each review attempted to address inefficient and bureaucratic processes that increase program cost and schedule. The majority of these reviews had very similar conclusions. Major areas identified as needing improvement included a better-trained workforce, reduced layers of bureaucracy between program managers and senior decision makers, and use of mature technologies (Fox, 2011). Despite these attempts, the perception remains that

the system is still in need of reform. Reviewing successful lean and lean six sigma development processes identified six factors that differentiate them from traditional development (David & Goransson, 2012) (Ward, Liker, Cristiano, & Sobeck, 1995) (Womack, Jones, & Roos, 1990). Comparing previous acquisition reform initiatives to a lean baseline, specifically looking at the six differentiating factors, provided insight into why these insights may not have been successful. Comparing proposed acquisition reform initiatives to the same lean baseline provides insight into potential success and identifies areas that senior leaders should focus efforts moving forward.

"Case Study: Lessons Learned from Transitioning of Force Protection Persistent Surveillance System from Joint Urgent Operational Need Statement (JUONS) to Program Of Record (POR)"
By Thuan Nhu Khong

Note: Research paper is approved For Official Use Only (FOUO)

The Department of Defense (DoD) completed drawing down from Operation Enduring Freedom (OEF) in December 2014 and is faced with budget constraints and sequestration in the Five Year Defense Planning (FYDP). Under the DoD, various Program Executive Officers (PEOs) and their respective Project and Product Managers are dealing with the challenges of how to address the path forward for weapon systems that were fielded to support Operational Need Statements (ONS) and Joint Urgent Operational Need Statements (JUONS). This paper attempts to address the lessons learned from a successful transition from a JUONS to a Program Of Record (POR) for specific Acquisition Category (ACAT) III programs.

"Microelectronic Supply Chain Cybersecurity Best Practices and Vulnerabilities"
By Melinda L. Marinello

Note: Research paper is approved for DISTRIBUTION STATEMENT B. Distribution authorized to U.S. Government agencies to protect information and technical data that may be observed by adversary intelligence systems and to determine what indicators hostile intelligence systems may obtain that could be interpreted or assembled to derive critical information in time to be useful to adversaries.

The Department of Defense (DoD) seeks to equip the men and women on the front lines with cutting-edge and equally advanced communication and information systems. These advanced systems use high speed microelectronics that perform millions of instructions per second and are a key component of the most advanced weapon systems in the world. The critical importance of advanced electronics-based systems, coupled with an increasing threat leads to the questions as to whether the DoD has identified microelectronic vulnerabilities, and how well are these components are being protected.

"A Study of Army Civilian Centralized Selection List Project & Product Managers Selection Attributes"
By William J. Papich

Note: Research paper is approved for public release

Project & Product Managers (P&PMs) are responsible for the success and failures of the acquisition programs they manage. The importance of the role is accentuated by the fact that P&PM positions are classified as Critical Acquisition Positions (CAPs) / Key Leadership Positions (KLPs). Furthermore, the Centralized Selection List (CSL) P&PMs that hold the responsibilities must possess a unique skill set and must execute programs in an extremely complex and dynamic environment.   The research explored the attributes and selection demographics of CSL board-selected Army civilian P&PMs. The research thoroughly examined the attributes and selection demographics of CSL board-selected Army civilian P&PMs to determine if any trends or significant relationships existed.

"Foreign Local Nationals (FLN): An Evolving Utilization Strategy"
By Donna M. Ragucci

Note: Research paper is approved for public release

The purpose of this research is to determine whether pre-positioning and sustainment of a contracting-focused Foreign Local National (FLN) workforce in an expeditionary environment should be considered as a resourcing strategy for future Expeditionary Contracting Command (ECC) mission requirements.

"Impacts of Partnering with Industry on DoD Programs"
By Greg Snowden

Note: Research paper is approved for DISTRIBUTION STATEMENT D – Distribution authorized to the Department of Defense and U.S. DoD contractors only (Administrative Use).

The research paper is centered upon improving the body of knowledge of the U.S. (United States) Department of Defense's (DoD) initiative to form partnerships with industry. In times of decreasing budgets and tighter monetary policies, DoD will need to make use of every initiative available aimed at obtaining greater efficiencies of the dollars appropriated to the military. The focus is to provide insights into lessons learned in regards to partnering with industry. Partnering refers to the team effort between DoD and industry to improve execution of DoD acquisition programs.

"Workforce Composition and Adequacy of Training/Certification Requirements For U.S. Army Acquisition, Logistics, and Technology and Capability Development Workforces" By Tim Vinson

Note: Research paper itself is approved For Official Use Only (FOUO)

The research explores levels of education, training, experience, and composition for capability requirements development communities at Army Aviation and Maneuver Centers of Excellence, plus AL&T personnel from Program Executive Office (PEO) Aviation and PEO Soldier. Additionally, for the capability requirements and AL&T workforces, the research explores the sufficiency and effectiveness of requirements and acquisition training and the adequacy of position certification standards. The research also explains the impacts of other variables, beyond adequacy of workforce training and certification, that create inefficiencies in the "Big A" acquisition process, the capability requirements process, and in capability requirements and capability requirements documents.