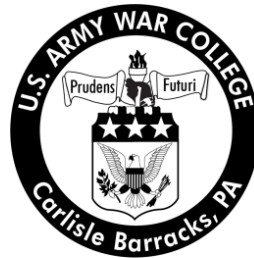# Transforming the Acquisition of Army Information Technology

by

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United States Army War College
Class of 2013

This manuscript is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

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14. ABSTRACT

Information technology (IT) is a critical and costly enabler of Army Operations. When authorized Army activities obligate funds to support IT contracts, it becomes the responsibility of those activities to perform continuous validation of the requirements for IT support. However, the Army's current initiatives and processes for IT procurement and acquisition are not sufficient to conduct thorough analysis and prevent duplication of effort. One of the primary issues facing the Army IT acquisitions process is the failure of users to clearly define IT requirements and outline the scope of those requirements. Users often do not adequately articulate their operational needs. It is only through the use of effective cost benefit analysis conducted by IT savvy procurement teams that the Army can reduce costs and improve productivity in the modern era of fast paced technological advances and ever decreasing fiscal resources.

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Transforming the Acquisition of Army Information Technology

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Abstract

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Information technology (IT) is a critical and costly enabler of Army Operations. When authorized Army activities obligate funds to support IT contracts, it becomes the responsibility of those activities to perform continuous validation of the requirements for IT support. However, the Army's current initiatives and processes for IT procurement and acquisition are not sufficient to conduct thorough analysis and prevent duplication of effort. One of the primary issues facing the Army IT acquisitions process is the failure of users to clearly define IT requirements and outline the scope of those requirements. Users often do not adequately articulate their operational needs. It is only through the use of effective cost benefit analysis conducted by IT savvy procurement teams that the Army can reduce costs and improve productivity in the modern era of fast paced technological advances and ever decreasing fiscal resources.

Transforming the Acquisition of Army Information Technology

> …reforming and restructuring the Institutional Army-the Generating Force-
> to reflect the same innovation and adaptability we have in our Operating
> Force is critical to maintaining our operational capability.
>
> —HON John M. McHugh,
> Secretary of the Army
> September 2011

Information technology (IT) is a critical and costly enabler of Army Operations. When authorized Army activities obligate funds to support IT contracts, they assume the responsibility to perform continuous validation of the requirements for IT support. However, the Army's current initiatives and processes for IT procurement and acquisition are not sufficient to conduct thorough analysis and prevent duplication of effort. One of the primary issues facing the Army IT acquisitions process is the failure of users to clearly define IT requirements and outline the scope of those requirements. Users often do not adequately articulate their operational needs. It is only through the use of effective cost benefit analysis conducted by IT savvy procurement teams that the Army can effectively procure IT in an environment of fast paced technological change and ever decreasing fiscal resources.

The term "information technology" has become ubiquitous in society and often refers to all manner of electronic devices. For the purpose of clarity the term is used in this paper as defined by the Army Knowledge Management and Information Technology, Army Regulation (AR) 25-1, "[I]nformation technology refers to any equipment or interconnected system or subsystem of equipment used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of voice, image, data, or information by the Federal Government."[1]

Successful acquisitions of enterprise IT systems require subject matter expertise that government managers responsible for program execution may not possess. A person may have program administration skills but not the ability or technical knowledge of IT. Debates about contracting, budgeting, and organizational design often supplant arguments about operations and systems concepts of engineering. The critical technical discussions frequently take the figurative back seat to organizational priorities. Engineering architecture is very complex, but most people outside of the IT community view it as merely a paper exercise and fail to assign it the importance it demands. It is this disconnect between the reality of how things are done and the ideal of how things *should* be done which creates a problem. The Defense Science Board Task Force (DSBTF)[2] determined three root causes of this problem: 1) lack of experience and understanding on the part of senior leaders, 2) inadequate experience of program executive officers and program managers, and 3) agreement to purchases by personnel who are not accountable before being granted the authority to proceed.[3]

Formation of a Specialized IT Acquisition Cadre

In July 2011, the Office of Federal Procurement Policy (OFPP), Office of Management and Budget (OMB), forwarded guidance for a specialized IT acquisition cadre comprised of highly trained and experienced contracting professionals. The cadre would be minimally composed of 1) Contracting Officer (KO), 2) A contract specialist who can legally obligate for the government, 3) Program Managers (PMs) who develop the requirements and monitor program activities for the desired outcome and 4) Contracting Officer Representatives (CORs) who are authorized and designated in writing by the KO to perform administrative or specific technical functions on contracts or orders. Specific skills for each professional are reflected in figure 1.[4] The DSBTF

emphasized that IT acquisitions require highly trained and experienced management capability and the IT expertise to provide support to acquisition oversight and decision making. [5] This guidance for specialized acquisition cadre emphasized "best practices for recruiting, training, developing and organizing acquisition officers to achieve shared goals."[6]
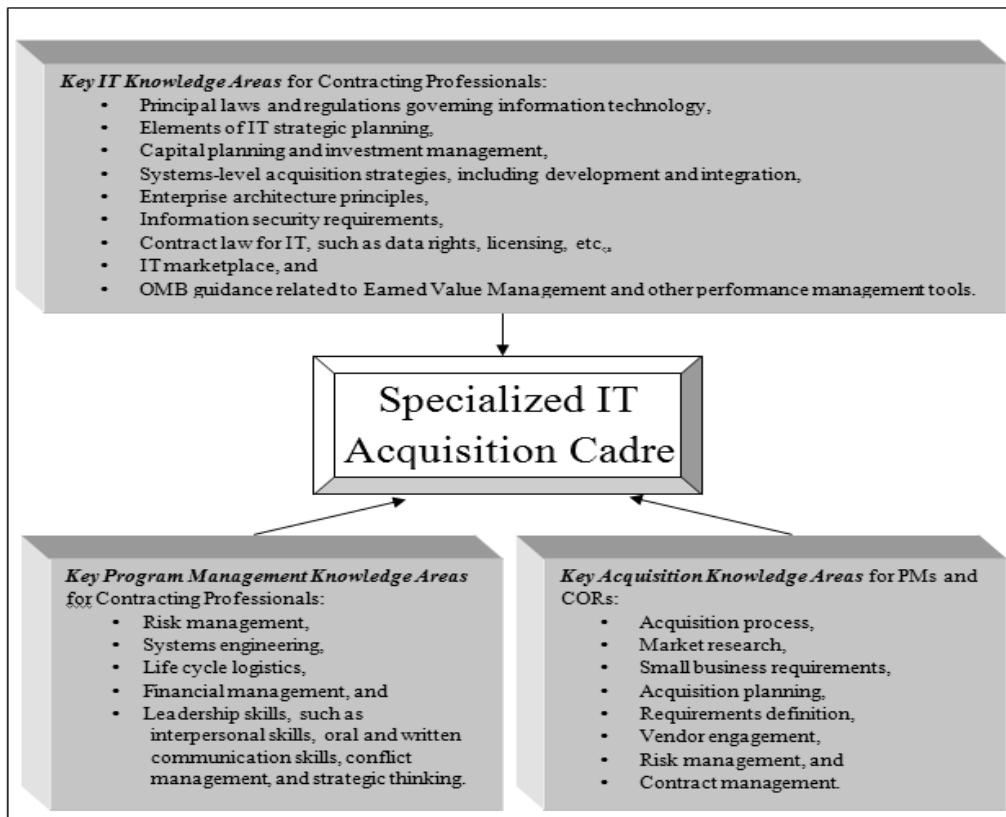

Key IT Knowledge Areas for Contracting Professionals:
- Principal laws and regulations governing information technology,
- Elements of IT strategic planning,
- Capital planning and investment management,
- Systems-level acquisition strategies, including development and integration,
- Enterprise architecture principles,
- Information security requirements,
- Contract law for IT, such as data rights, licensing, etc.,
- IT marketplace, and
- OMB guidance related to Earned Value Management and other performance management tools.

Specialized IT Acquisition Cadre

Key Program Management Knowledge Areas for Contracting Professionals:
- Risk management,
- Systems engineering,
- Life cycle logistics,
- Financial management, and
- Leadership skills, such as interpersonal skills, oral and written communication skills, conflict management, and strategic thinking.

Key Acquisition Knowledge Areas for PMs and CORs:
- Acquisition process,
- Market research,
- Small business requirements,
- Acquisition planning,
- Requirements definition,
- Vendor engagement,
- Risk management, and
- Contract management.

Figure 1. Specialized IT Acquisition Cadre[7]

In July 2011, the Government Accountability Office (GAO) testimony before the House of Representatives on the DOD Civilian Personnel Competency Gap Analyses and other actions needed to enhance DOD's Strategic Workforce Plans. The testimony revealed that DOD's acquisition workforce plan had a need to increase the acquisition civilian workforce of 118,000 as of September 2009. The acquisition team will need to

be increased by 20,000 personnel by FY15 due to "30 percent of DOD's workforce and 90 percent of its senior leaders [eligibility] to retire by March 31, 2015."[8] DOD had determined a strategy in order to grow the acquisition workforce through in-sourcing, retention or new-hires which may involve the conversion of contractor personnel functions to federal civilian functions.

The specialized IT acquisition cadre would help minimize and/or eliminate the competency gap. "GAO found that DOD's senior leader workforce plan included a plan of action to address gaps in critical skills and competencies that included changes in the number of personnel authorized in categories of the senior workforce."[9] Leveraging and bringing together the common elements of IT acquisition expertise into a single cadre would increase the efficiencies and implementation of unique attributes of IT initiatives and processes.

The GAO testimony revealed that competency gaps in the acquisition workforce, also impact the IT competency of their acquisition workforce. In accordance with DOD Instruction 5000.02 paragraph E1.1.9 Information Assurance, the acquisition managers shall address information assurance requirements for weapon systems, C4ISR systems and IT programs. In paragraph E1.1.10 Information Superiority, the acquisition managers provide systems and families of systems to U.S. Forces that are secure, compatible, reliable and interoperable with the electromagnetic spectrum environment. The Defense Acquisition University (DAU) provides a total of three scheduled classes for basic, intermediate and advanced information systems that are available for acquisition officers. However acquisition managers cannot be expected to acquire systems that are secure, compatible, reliable and interoperable after only three classes

on information systems. While the establishment of a dedicated IT cadre would help to rectify many of the shortcomings previously discussed, there is also a need to provide them with guidance and tools to help achieve their goals.

Cost Benefit Analysis (CBA)

Effective August 9, 2010, Secretary of Defense Robert Gates directed all DOD components were to comply with the directive to use a cost estimate or cost-benefit analysis (CBA) for any unfunded requirement to ensure costs were consistently considered throughout the Departments' decision making.[10] The end result of a CBA is "a clear statement that the benefits more than justify the cost and required trade-offs."[11] To achieve this goal, the DOD made a support tool, called the cost assessment and program evaluation (CAPE), available for estimating the associated costs in preparing and publishing a report or study. The intent of this tool is to increase the transparency associated with costs of reports or studies prepared or sponsored by the Department.

CBA is an important decision support tool that can predict the effect of actions before they are taken. CBA serves as a decision package and helps define a solution in support of specific objectives of the Army or organization by quantifying potential impacts financially and business benefits.[12] Decision-makers using cost benefit analysis (CBA) need to be able to define a problem or opportunity and define the scope of prospective remedies (fig 2) in order to be an integral part of the solution. Decision-makers must practice being good stewards of every dollar and integrate that practice into their battle rhythm. Leaders must be involved in defining the problem and its scope. As stated in the DA, Cost Benefit Guide, "all CBAs provide decision makers with facts, data, and analysis required to make an informed decision." [13] DOD Directive 5000.01 provides details; however that needs to be further refined. It must include the decision-

maker as a part of the collaboration when defining the capability needs and to facilitate informed decisions on cost and affordability.

DOD Directive 5000.01 Enclosure 9, section E1.1.2. Collaboration[14] emphasizes the requirement of the different communities to maintain effective communication in DOD acquisition, financial, and operational users through the use of Integrated Product Teams (IPTs).[15] Although, the teams bring together stakeholders during the definition of the capability needs, there is no mention of involvement of the decision-maker. Leading the execution of the programs, being accountable for the results, and making decisions are the responsibilities of the Milestone Decision Authorities (MDAs) and PMs. But senior decision-makers are also responsible for making decisions in regards to the program requirements. Within DOD Directive Enclosure 9, section E1.1.4. Cost and Affordability[16] emphasizes that participants recognize the fiscal constraints in the acquisition system and must be better stewards of tax payer dollars. The cost must be realistic and within reason of projected future dollars and manpower. The user addresses affordability when establishing capability.
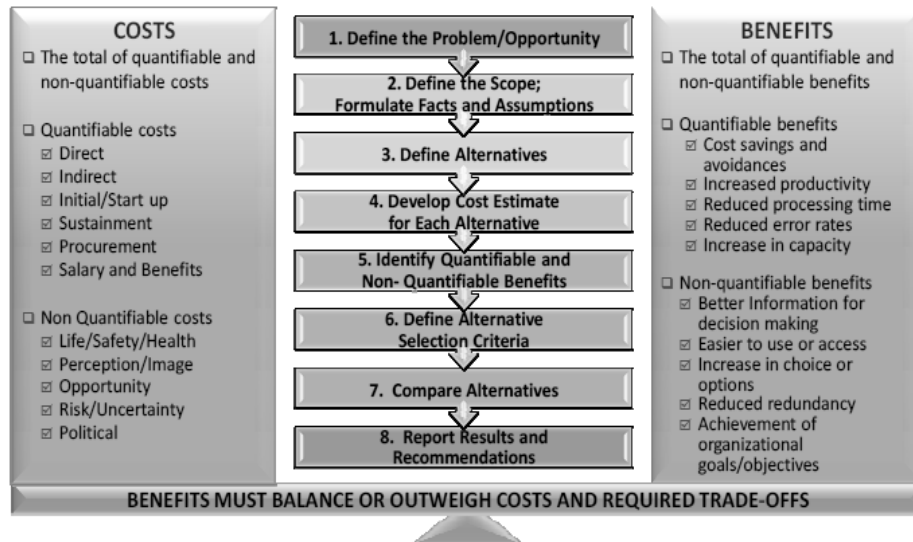
Figure 2. CBA Eight-Step Process

An article published in the *Federal Times* on July 23, 2012, revealed that six

Defense Department modernization projects—referred to as *Enterprise Resource*

Planning (ERP) *systems*—were intended to replace several small-scale systems with

department-wide systems to modernize the management areas of finances, logistics,

and other business operations. The purpose of this replacement project was to

increase efficiency and cost savings in the internal management of each department.

The combined amount for these modernization projects was $8 billion, at 110% over the

budget; the projects had suffered years of schedule delays. For example, one delay, a

new audit report, took more than 12 years.[17] "A Pentagon Inspector General (IG) report

said defense managers need to be more proactive and provide more oversight of the six

projects."[18] Almost $303 million in funding for these projects was approved by

department officials without verifying assertions from program managers that the money would be spent effectively.[19]

The scope of this research is primarily U.S. Army IT procurement management, including the definition of IT, its background, history, and explanations of procurement and acquisition processes. Three concepts form the foundation of this process. First, several comprehensive laws, regulations, policies, procedures, memoranda, and other official guidance apply to the management of Army IT assets. Second, IT management and procurement officials are required to use numerous automated systems throughout the lifecycle process. Third, a need exists for increased management oversight and emphasis on IT procurement and acquisition of hardware, software, operating systems, telecommunications equipment, and services. These concepts are incorporated into a unified IT guidance policy termed the Information Technology Management Reform Act (ITMRA) and the Federal Acquisition Reform Act (FARA).

<div align="center">IT Guidance</div>

The ITMRA and FARA were signed into law as part of the National Defense Authorization Act for Fiscal Year 1996. The ITMRA and FARA were subsequently designated the Clinger Cohen Act (CCA) of 1996. The passage of these acts marked the first time that Chief Information Officers (CIOs) were established by law in government agencies and their roles and responsibilities defined. In addition, ITMRA directs federal agencies to focus more on the results achieved through IT investments while streamlining the federal IT procurement process. Specifically, the ITMRA emphasizes rigor and structure in how agencies approach the selection and management of IT projects. FARA increases the discretion of contracting officers to promote efficient competition and also permits the use of simplified acquisition

procedures in the acquisition of commercial items up to $5 million. CIOs are responsible for providing advice and assistance to agency heads concerning IT acquisition and information resource management (IRM).

<u>Title 10</u>

The U.S. Army falls under Title 10 of U.S. Code, Subtitle B. Title 10 articulates the roles, mission and organization of the services, Army, Air Force, Navy/Marines, and Coast Guard. The legal authority responsible for approval of any acquisition is outlined in this section of the U.S. Code, ensuring appropriate funds are used when procuring equipment or services. The Secretary of the Army is the legal authority for the U.S. Army as specified in Title 10.

<u>DOD Directive 8000.1</u>

In 2002, DOD issued Directive 8000.1 and was updated in 2009. This directive, the 1998 Additional Responsibilities of CIOs Act, included DOD guidance on the roles and responsibilities of the CIO for each military service, incorporating the CCA. This dictated that CIOs have an essential role in the assessment, budget and procurement of IT assets. CIOs were mandated to establish an IT life cycle program that minimizes redundancy, security issues and waste. CIOs were also directed to validate IT solutions were interoperable to support the warfighter in joint operations among other military services.

<u>DOD Directive 5000.01 and 5000.02</u>

More details are provided between the 5000.01 directive and 5000.02 instructions in procurement for DOD and Army. However, there is a need to highlight the following sections: E1.1.2. (<u>Collaboration</u>)[20] emphasizes the requirement of the different communities to maintain effective communication in DOD acquisition, financial,

and operational users through the Integrated Product Teams (IPTs).[21] The directive

does not mention the required involvement of the decision-maker. Leading the

execution of the programs and making decisions are the responsibilities of the

Milestone Decision Authorities (MDAs) and PMs. This section does not address or

include that the decision-maker is also responsible for making decisions in regards to

the programs. In section E1.1.4. Cost and Affordability)[22] all participants in the

acquisition system must be better stewards of tax dollars recognizing the fiscal

constraints. DOD Instruction 5000.02 Encl 9 Acquisition of Services 1a[23] reflects that

the acquisition of services must be based on clear and well-defined requirements. The

use of CBA will meet this requirement.

Federal CIO 25 Point ITMRA

In December 2010, the Federal CIO 25-point IT Reform Act[24] identified several

actions for agencies. Two key actions are to: "(1) more effectively manage IT

acquisitions and (2) achieve operational efficiencies."[25] The intent of this reform plan

was to encourage more oversight and efficiency across the federal government in the

procurement and management of IT assets. This plan also created a process to detect

poorly performing IT initiatives to be terminated.

OMB

In August 2011, OMB directed "changing the role of Agency CIOs away from just

policymaking and infrastructure maintenance, to encompass true portfolio management

for all IT."[26] From a governance perspective, the guidance requires CIOs to drive the

investment review process for IT investments. As noted in the OMB published memo,

the goal was to terminate or revise and salvage "one third of all underperforming IT

Investments by June 2012."[27] CIOs must work with Chief Financial Officers (CFOs) and

Chief Acquisition Officers (CAOs) to ensure IT portfolio analysis is integrated into the yearly budget process for an agency. The OMB's intent was to help CIOs establish enterprise-level solutions within their agencies. In addition, the OMB intended to overcome many of the bureaucratic issues that CIOs have dealt with in the past when attempting to enforce IT policies and procedures within their agencies.

DOD CIO 10 Point Implementation Plan

In response to OMB's reform plan, DOD has established an investment decision-making process, DOD CIO 10 Point ITMRA,[28] based on an assessment of potential return on investments. The Department has also made progress building processes to support recommendations to terminate or continue programs based on their performance relative to expectations. "Although the CCA and its associated federal guidance have resulted in significant efforts to improve the DOD's IT investment practices, many opportunities for improvement remain."[29]

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

The U.S. Army is governed by a myriad of rules and regulations concerning its mission and processes for acquisition and management. Because of the decentralized structure and size of the Army, in addition to the enormous number of rules and regulations, the procurement process is often delayed, making IT management difficult. Some of the federal laws that govern the Army's authority, structure, mission, and acquisition procedures are confusing and extensive. When we reflect on our history, purchasing was not considered as a managerial process.

Purchasing was regarded primarily as a clerical process prior to World War I. The importance of obtaining raw materials, supplies, and services was crucial to keep factories and mines operating, the purchasing function increased during World Wars I

and II. When the number of trained purchasing professionals increased, purchasing

progressed in stature as the methods for conducting this function became more

sophisticated in the 1950s and 1960s; thus, the purchasing process transitioned to

managerial instead of clerical. The United Nations and other interagency and

intergovernmental organizations viewed procurement as a well-recognized discipline. In

the 1970s and 1980s, as the capability to attain required items at a realistic cost from

suppliers increased, so did the importance of the purchasing strategy.

Procurement/Acquisition

In the Army, expanding IT has evolved from purchasing to procurement and

acquisition. Procurement can be defined as the buying of goods and services which

could be physical items, like hardware or systems. Acquisition takes the lifecycle of

products into account in order to fulfill DOD needs that are in support or use for military

missions. Acquisition, therefore, is a much wider concept than procurement, covering

the whole life cycle of acquired systems. Acquisition has its own process composed of

three phases.

The DOD Acquisition Process (fig. 3) consists of three phases: Phase A is

concept and technology development, Phase B is system development and

demonstration, and Phase C is production and deployment. During Phase C,

technology is defined and matured into viable concepts that are subsequently

developed and readied for production and eventually supported in the field. [30] The

process allows a given system to enter the process at any of the development phases.

For example, a system using unproven technology would enter at the beginning phase

of the process and would proceed through a lengthy period of technology maturation,

while a system based on mature and proven technologies might enter directly into engineering development or possibly even production.[31]

The frameworks that define the acquisition process are the Joint Capabilities Integration Development System (JCIDS)[32]; the Planning, Programming, Budget, and Execution System (PPBE)[33]; and the Defense Acquisition System (DAS).[34] These systems comprise the DOD's decision-support system,[35] which defines requirements, prioritizes capabilities, and maximizes use of resources. DOD uses DAS to provide trained and ready forces to implement the National Security Systems (NSS)[36].
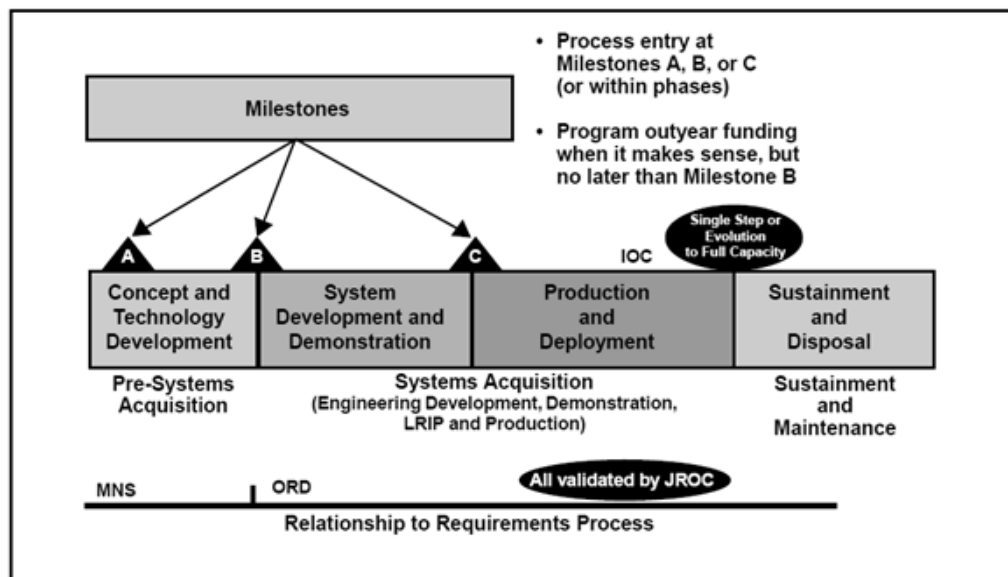

Figure 3. Department of Defense (DOD) Acquisition Process[37]

Because of the specialized nature of IT, an IT procurement process exists in every organization using information technology. As users of information systems increasingly find themselves in roles as customers of multiple vendors, the IT procurement process receives greater management emphasis. "In addition to hardware, software operating systems, telecommunications equipment, and services—

information resources traditionally acquired in the marketplace—organizations have

turned to outside vendors for many components of their application systems, application

development and integration, and a broad variety of system-management services."[38]

As a result of process efficiency being one of the leading issues for IT, procurement

managers must demonstrate the economic value of an information system. To do so,

procurement managers are involved in the overall governance of IT procurement.

In January 2013, the GAO testimony before the House of Representatives on

Information Technology stated that OMB and agencies need to fully implement major

initiatives with the potential to save billions of dollars. Federal agencies reported to

OMB that they plan to spend more than $74 billion on IT investments in FY13. It is vital

that OMB and federal agencies have the appropriate level of oversight and that

programs be sufficiently transparent, especially considering that some of these

programs have significant effects on the health, economy, and security of the nation.[39]

The Department of Defense Information Engineering Strategic Plan 2010-2012

emphasized that,

> The achievement of this goal depends on establishing a culture that views
> the acquisition, management, and retirement of IT investments in terms of
> strategic enterprise value, capability, performance, gap severity, risk,
> financial efficiency, and environmental impact. Ultimately, through
> federated efforts across the enterprise, DOD will become an organization
> that optimizes the value of IT investments by managing their contributions
> to capability-based portfolios.[40]

"[T]he goal of optimizing IT investments will be achieved by wider adoption of IT

investment governance, greater use of DOD [Executive Agency] (EA) increased agility

in acquisition processes, and coordinated management of IT portfolios." [41]

Current Army Initiatives and Processes

Assistant Secretary of the Army for Acquisition, Logistics and Technology, Ms. Heidi Shyu, stated, "We can shorten the cycle time of acquisition, which equals cost savings, and gets capabilities to the hands of our Warfighters a lot quicker." [42] In the network integration evaluation (NIE),[43] a company commander and his unit enters a series of semi-annual field exercises, choses a digital system to reach his higher headquarters down to his soldiers to integrate network capabilities into a real-world scenario. The soldiers evaluate how the network capabilities interface with each other and how their unit can effectively employ that on the battlefield. "Leveraging these types of exercises allows us to understand and resolve interoperability issues before we deliver this equipment downrange."[44] The U.S. Army Training and Doctrine Command's Brigade Modernization Command, has coordinated with the Army Test and Evaluation Command and the Assistant Secretary of the Army for Acquisition, Logistics, and Technology, to develop a process to change the acquisition system, making it faster and better aligned to warfighter needs. This process called, the "Agile Process" would accelerate the pace of network modernization to a rate unachievable by traditional acquisition strategies.

The Agile Process

LTG Susan Lawrence, Army CIO/G6 emphasized that,

The phased Agile Process is an effort to procure critical capabilities in a more rapid manner, while ensuring technical maturity and integration synchronization. The ultimate end state of the Agile Process is the NIE which is designed to procure and align systems that meet a pre-defined operational need or gap and demonstrate success through Soldier-led discussions.[45]

The NIEs are an adaptive and evolutionary approach to designing, integrating, and maturing the Army's tactical network. To make certain that new capability solutions are integrated into the network, continuous adaptability and changes are vital because of the speedy maturation cycle of IT. The agile process consists of seven phases, starting with continuous evaluation and identification of potential capability gaps; culminating in a sequence of evaluations on a large scale within field environments located at Fort Bliss, Texas, and White Sands Missile Range (WMSR), New Mexico. After all 7 phases, personnel reach a fielding decision. The agile process is further divided into three areas.[46] Phase 0 and Phase I are continuous and include reaction to external changes from ongoing operations, advances in IT, and traditional analysis that the Army conducts to modernize the force for the future. Phase II through Phase V are time driven on approximately a 120-day cycle, based on two semi-annual evaluation windows at the Brigade Modernization Command (BMC) at Fort Bliss, Texas, for evaluating capability solution candidates. Phase VI, the final phase is the fielding decision. In order to identify and assess inefficiencies in the fielding capabilities, the Army integrated the Army Request for IT (ARFIT) policy and processes.

ARFIT

The Army CIO/G6 is responsible for integrating products and projects across the Headquarters Department of the Army (HQDA) while providing management support, developing and managing the Army's IT enterprise license agreements, overseeing the organization's contracts, and providing strategic communications support to the CIO/G6. The CIO relays the status of the network to the Army, DOD, and Congress. The primary area of interest under CIO/G6 Policy and Resources is the Secretary of the Army IT Reform Initiative, followed by the Army Request for IT (ARFIT). In December

2011, the Army established a policy and processes for procurement of all IT hardware, software, and services without a cost threshold and regardless of the type of procurement.

A joint effort of the CIO/G6 and the Chief Management Officer's (CMO) Office of Business Transformation, ARFIT creates a single integrated process consistent with the CCA of 1996, which requires responsibility, authority, and accountability at all echelons while giving visibility of all IT procurement at the enterprise level. ARFIT will provide Army leadership situational awareness of IT procurement across the entire force. This visibility will aid in identifying and assessing inefficiencies in fielding IT capabilities and developing and sustaining budget resource decisions. The ARFIT process will drive down IT costs by enforcing procurement through the Computer, Hardware, Enterprise Software and Solutions (CHESS)[47] Program. Additionally, ARFIT will enhance security by preventing procurement and installation of uncertified IT on the network.

The Director of Office Business Transformation and CIO/G6 are analyzing the issues from an enterprise perspective. Under ARFIT,[48] the Army has identified the resource management gatekeepers: Army Cyber Command (Network Enterprise Technology Command); Army Material Command (Contracting Command); the Assistant Secretary of the Army for Acquisition, Logistics and Technology (program/projects managers); and the Assistant Secretary of the Army (Financial Management and Comptroller). These gatekeepers have the responsibility, authority, and accountability to ensure that the ARFIT process is being followed.

In June 28, 2012, a memorandum signed by John M. McHugh, Secretary of the Army[49], directed and assigned responsibilities for the ARFIT process. The ARFIT team

was charged with defining, developing, and validating gatekeeper roles, responsibilities, and business procedures. The Army also expects to staff, approve, and publish the formal ARFIT process and implementation plan and to begin ARFIT database development. In addition, the Army will publish a revised AR 25-1 with revised procurement and enforcement policies. As needed, further updates will be inserted every 13 months. The means to implement and automate this ARFIT policy and process for visibility and situational awareness of IT assets is through IT Asset Management (ITAM).

ITAM

ITAM satisfies the commanders' need for visibility and situational awareness by automatically capturing, through standard network operations (NetOps) capabilities, data regarding systems and applications on the Army Network, down to individual printers and work stations. With this information, the Army can track what and who is accessing the network. To determine true Army business requirements and support smarter, more cost-effective IT acquisition activities involving billions of dollars, the Army must have comprehensive, aggregated IT asset data. Automatic collection of this information via ITAM is the most efficient method, in terms of both time and effort, to obtain and disseminate the requisite data. Knowing definitely what is in use and on the Network will help the Army to use its limited resources better, develop sound IT budgets, plan for future operations, and implement the unified EA. Knowing what and who is accessing the Network will improve the Army's security as well. The Army has established ITAM within Network Enterprise Technology Command (NETCOM), to manage the design, development, implementation, and sustainment of ITAM. Army

Cyber Command, the CIO/G6, and NETCOM are working with organizations across the Army to identify, validate, and prioritize ITAM operational requirements.

Changes Required to Transform the Acquisition of IT

Becoming better stewards of tax dollars is essential since the Army is faced with fiscal constraints and a reduced force. A few of the issues encountered in the acquisition of IT are not having a clear definition of the IT requirement and scope or inadequately articulating the requirement. Additionally, the unavailability or lack of involvement of decision-makers, stakeholders, and IT expertise contributes to poorly defined operational needs. The use of a CBA process is a step toward contributing to this effort in defining realistic costs and requirements as a forcing function. Specialized IT Cadre[50] must include personnel with an experienced background and IT expertise that conduct similar acquisition-related responsibilities. In the GAO study referred to earlier, DOD can add the additional strategy of having a skilled and experienced community to its arsenal of tools to improve IT acquisitions. This non-acquisition workforce armed with extensive IT acquisition experience can serve as members of the specialized cadre. The cadre can alleviate the cost of new hires or converting contractor personnel to federal civilians. The non-Defense Acquisition Workforce Improvement Act (DAWIA) personnel involve interaction in the IT community requiring IT contract management oversight from the first exposure to key developmental or broadening assignments, in addition to IT industry and academic certifications.

Conclusion

As technology evolves so must the Army's initiatives and processes on IT acquisitions. Collectively, all personnel involved in the Army's IT procurement decision making, budget oversight, resource management, and IT acquisition processes, along

with integrating the appropriate doctrine effectively, must remain actively engaged. It is

commendable that the Army CIO/G6 has responded to the reform plan by establishing

the Army ARFIT policy and agile process for procurement of all IT hardware, software,

and services, without a cost threshold and regardless of the type of procurement. In

addition, ITAM is being automated through the standard NetOps capabilities for

enhancing the visibility and situational awareness of IT assets.

However, the Army's current initiatives and processes for IT procurement and

acquisition are not sufficient to conduct thorough analysis and prevent duplication of

effort. The Army must supplement them by requiring the use of the CBA process which

will engage the decision-maker and specialized IT acquisition cadre as a forcing

function in developing and refining the requirement. In addition, the Army must

establish specialized IT acquisition cadre which will include the stakeholders and IT

expertise. Active involvement of the decision-maker will facilitate better management

oversight and service delivery, enhanced collaboration, and reduced waste and

inefficiencies. IT projects will no longer take multiple years without delivering the

expected functionality; projects that are performing poorly will be identified earlier to

recover, improve or be improved, and those that cannot be improved will be terminated.

Large IT contracts to be negotiated should include individuals with IT expertise.

Endnotes

[1] Department of the Army, "Army Knowledge Management and Information Technology,"
AR 25-1, December 4, 2008, http://www.apd.army.mil/pdffiles/ r25_1.pdf, 1.

[2] Established in 1956 in response to recommendations of the Hoover Commission, revised
in 1959, the authorized strength of the Board is thirty-two members and seven ex officio
members (comprised of the chairmen of Army, Air Force, Navy, Policy, Defense Business and
Defense Intelligence Agency advisory committees). The Board reports directly to the Secretary
of Defense through the USD (Acquisition, Technology & Logistics), while in close coordination

with the Director of Defense Research and Engineering, *The Defense Acquisition Home Page,* at "Task Force Members," http://www.acq.osd.mil/dsb/history.htm (accessed January 31, 2013).

[3] U.S. Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "*Department of Defense Policies and Procedures for the Acquisition of Information Technology*: *Final Report*," Washington, DC: Defense Science Board Task Force, March 2009, xvii.

[4] U.S Office of Management and Budget Daniel I. Gordon, "*Guidance for Specialized Information Technology Acquisition Cadres*," memorandum for Chief Acquisition Officers, Senior Procurement Executives, and Chief Information Officers, Washington DC, July 13, 2011, A-2.

[5] U.S. Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "*Department of Defense Policies and Procedures for the Acquisition of Information Technology*: *Final Report*," Washington, DC: Defense Science Board Task Force, March 2009, xvii.

[6] Ibid.

[7] U.S. Office of Management and Budget Daniel I. Gordon, "*Guidance for Specialized Information Technology Acquisition Cadres*," memorandum for Chief Acquisition Officers, Senior Procurement Executives, and Chief Information Officers, Washington DC, July 13, 2011, A-8.

[8] U.S. Government Accountability Office, *Competency Gap Analyses and Other Actions Needed to Enhance DOD's Strategic Workforce Plans: Report to House Committee on Armed Services*, (Washington, DC: U.S. Government Accountability Office, July 2011), 1.

[9] Ibid.

[10] U.S. Secretary of Defense Robert Gates, "*Consideration of Costs in DoD Decision-Making*," memorandum for Secretaries of the Military Departments, Chairman of the Joint Chiefs of Staff, Under Secretaries of Defense, Deputy Chief Management Officer, Assistant Secretaries of Defense, General Counsel of the Department of Defense, Director Operational Test and Evaluation, Director Cost Assessment and Program Evaluation, Inspector General of the Department of Defense, Assistants to the Secretary of Defense, Director Net Assessment, Directors of the Defense Agencies, Directors of the DOD Field Activities, Washington, DC, December 27, 2010.

[11] U.S. Department of the Army, *Cost Benefit Analysis Guide*, 2nd ed, April 8, 2011,14.

[12] Ibid,12.

[13] Ibid.

[14] Department of Defense, *Defense Acquisition System*, DOD Directive 5000.01 (Washington, DC: DOD, November 20, 2007), 5.

[15] Integrated Program Teams (IPTs) are cross-functional or multidisciplinary groups of individuals that are organized and collectively responsible for the specific purpose of delivering a product to an external or internal customer. They are led by a Program Manager (PM) and similar to a specialized cadre but are generally established to support a particular program for a limited period of time. IPTs include members of the specialized cadre and their customers, and

also other key experts and stakeholders for the program. U.S Office of Management and Budget Daniel I. Gordon, "*Guidance for Specialized Information Technology Acquisition Cadres*," memorandum for Chief Acquisition Officers, Senior Procurement Executives, and Chief Information Officers, Washington DC, July 13, 2011, A-2.

[16] Department of Defense, *Defense Acquisition System*, DOD Directive 5000.01 (Washington, DC: DOD, November 20, 2007), 5.

[17] Sean Reilly, "At DoD, 6 IT projects, $8 billion over budget," July 23, 2012, http://www.federaltimes.com/print/article/20120723/DEPARTMENTS01/307230001/At-DoD-6-projects-8-billion-over-budget (accessed December 13, 2012).

[18] Ibid.

[19] Ibid.

[20] Department of Defense, *Defense Acquisition System*, DOD Directive 5000.01 (Washington, DC: DOD, November 20, 2007), 5.

[21] Integrated Program Teams (IPTs) are cross-functional or multidisciplinary groups of individuals that are organized and collectively responsible for the specific purpose of delivering a product to an external or internal customer. They are led by a Program Manager (PM) and similar to a specialized cadre but are generally established to support a particular program for a limited period of time. IPTs include members of the specialized cadre and their customers, and also other key experts and stakeholders for the program. U.S Office of Management and Budget Daniel I. Gordon, "*Guidance for Specialized Information Technology Acquisition Cadres*," memorandum for Chief Acquisition Officers, Senior Procurement Executives, and Chief Information Officers, Washington DC, July 13, 2011, A-2.

[22] Ibid.

[23] U.S. Department of Defense, *Operation of the Defense Acquisition System*, DOD Instructions 5000.02, USD (AT&L), December 8, 2008, 62.

[24] Jeff Zients and Vivek Kundra, White House Forum on "IT Management Reform," December 9, 2010, *YouTube*, video file, http://www.youtube.com/watch?v=f_vHGGseHt4 (accessed December 7, 2012).

[25] U.S. Government Accountability Office, *Information Technology, OMB and Agencies Need to Fully Implement Major Initiatives to Save Billions of Dollars: Report to House Committee on Oversight and Government Reform*, (Washington, DC: U.S. Government Accountability Office, January 2013), 9.

[26] U.S. Office of Management and Budget Jacob J. Lew, "*Chief Information Officer Authorities*," memorandum for see distribution, Washington, DC, August 8, 2011.

[27] Ibid.

[28] Ms. Teri Takai, "DOD CIO's 10-Point Plan for IT Modernization," briefing slides, Washington, DC, January 5, 2012.

[29] U.S. Department of Defense, *Department of Defense Information Enterprise Strategic Plan 2010-2012*, (Washington, DC: U.S. Department of Defense), 24.

[30] U.S. Department of Defense Acquisition, Technology and Logistics, The DOD Acquisition Process, linked from *Defense Acquisition Portal Homepage* at "Acquisition Process," https://dap.dau.mil/aphome/das/Pages/Default.aspx. (accessed January 31, 2013).

[31] Ibid.

[32] The primary objective of the JCIDS process is to ensure the capabilities required by the joint warfighter are identified, along with their associated operational performance criteria requirement, in order to successfully execute the missions assigned. http://www.acqnotes.com/Acquisitions/JCIDS%20Overview.html (accessed January 31, 2013).

[33] The Planning, Programming, Budget and Execution (PPBE) process is one of three Procurement Processes that make up the defense acquisition system. The PPBE process is focused on the Financial Management and resource allocation for current and future DoD acquisition programs. It's established by the Secretary of Defense who provides priorities and goals. http://www.acqnotes.com/Acquisitions/PPBE%20Overview.html (accessed January 31, 2013).

[34] The DAS process is focused on the development and delivery of a capability to the nation and uses affordability analysis to ensure requirement is economically feasible. https://dap.dau.mil/aphome/das/Pages/Default.aspx (accessed January 31, 2013).

[35] Moushe Schwartz, *Defense Acquisitions: How DOD Acquires Weapon Systems and Recent Efforts to Reform the Process* (Washington, DC: U.S. Library of Congress, Congressional Research Service, August 23, 2010), 3.

[36] NSS are war fighting systems, such as ships, tanks, missiles, satellites, and planes. IT is embedded within the system so that the end-product achieves its overall purpose. U.S. Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "*Department of Defense Policies and Procedures for the Acquisition of Information Technology*: *Final Report*," Washington, DC: Defense Science Board Task Force, March 2009, 26.

[37] U.S. Department of Defense Acquisition, Technology and Logistics, The DOD Acquisition Process, linked from *Defense Acquisition Portal Homepage* at "Acquisition Process," https://dap.dau.mil/aphome/das/Pages/Default.aspx. (accessed January 31, 2013).

[38] Robert L. Heckman, "Managing the IT Procurement Process," in *IS Management Handbook*, 8th ed., ed. Carol V. Brown and Heikki Topi (Boca Raton, FL: CRC Press, 2003), 73–87.

[39] U.S. Government Accountability Office, *Information Technology, OMB and Agencies Need to Fully Implement Major Initiatives to Save Billions of Dollars: Report to House Committee on Oversight and Government Reform*, (Washington, DC: U.S. Government Accountability Office, January 2013), 1.

[40] U.S. Department of Defense, *Department of Defense Information Enterprise Strategic Plan 2010-2012,* (Washington, DC: U.S. Department of Defense), 24.

⁴¹ Ibid.

⁴² Kris Osborn, ASA (ALT), "Shyu outlines strategic modernization planning approach," linked from *The Official U.S. Army Homepage* at "Articles," http://www.army.mil/article/89846/Shyu_outlines_strategic_modernization_planning_approach/ (accessed January 31, 2013).

⁴³ The NIE is part of a larger change in Army acquisition practices geared toward enabling rapid technology insertion. Susan S. Lawrence, "Network Information Brief: Improving Network Security and Operational Effectiveness," briefing slides, Washington, DC, June 7, 2012, http://ciog6.army.mil/LinkClick.aspx ?fileticket=O4Ezkdq_fGU%3D&tabid=36 (accessed January 31, 2013).

⁴⁴ Kris Osborn, ASA (ALT), "Shyu outlines strategic modernization planning approach," linked from *The Official U.S. Army Homepage* at "Articles," http://www.army.mil/article/89846/Shyu_outlines_strategic_modernization_planning_approach/ (accessed January 31, 2013).

⁴⁵ Susan S. Lawrence, "Network Information Brief: Improving Network Security and Operational Effectiveness," briefing slides, Washington, DC, June 7, 2012, http://ciog6.army.mil/LinkClick.aspx ?fileticket=O4Ezkdq_fGU%3D&tabid=36 (accessed January 31, 2013).

⁴⁶ Ken O'Donnell, "Maturing the Agile Process," *Army AL&T Magazine*, July 18, 2012, 22.

⁴⁷ CHESS is an Army approved contract vehicle that provides architecturally sound standards and policy-compliant IT enterprise solutions to all Army activities and organizations. Consolidating software requirements, developing business cases, assisting contracting officers in negotiating best-value deals and administering resulting agreements — CHESS helps to reduce acquisition and support costs in all of those areas by maximizing the Defense Department's buying power. *Federal Computer Week Home Page* at "Microsites," http://fcw.com/microsites/2011/chess/2-benefits-to-using-army-chess-hardware-software.aspx (accessed January 31, 2013).

⁴⁸ U.S. Secretary of the Army John M. McHugh, "Support to the Army Request for Information Technology (ARFIT) Process," memorandum for see distribution, Washington, DC, June 28, 2012.

⁴⁹ Ibid.

⁵⁰ U.S Office of Management and Budget Daniel I. Gordon, "Guidance for Specialized Information Technology Acquisition Cadres," memorandum for Chief Acquisition Officers, Senior Procurement Executives, and Chief Information Officers, Washington DC, July 13, 2011, A-8.