A COMPARATIVE ASSESSMENT OF KNOWLEDGE MANAGEMENT LEADERSHIP APPROACHES ACROSS THE DEPARTMENT OF DEFENSE

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A Comparative Assessment of KM Leadership Approaches

ABSTRACT
The National Defense Strategy (2008), the Quadrennial Defense Review (2006), and the Capstone Concept for Joint Operations (2009) specifically highlight a newer focus by the Department of Defense (DoD) on the “knowledge” resource and its importance in operations. As such, the Departments of the Army, Air Force, and Navy/Marine Corps have each launched knowledge management (KM) programs to varying degrees and of varying character. Although research recognizes many different approaches to KM, the message that KM leadership is critical to success is consistent. KM leadership is characterized in many ways to include KM vision, strategy, metrics, rewards, etc. Using a multiple-case study approach, the purpose of this study was to investigate KM leadership approaches in a unique military context. The results identified some similarities, but even more so revealed the very different nature of KM leadership approaches across the services.

INTRODUCTION
Over the last ten years, the Department of Defense has increasingly recognized the importance of the “knowledge” resource as reflected in a growing number of policy, guidance, and strategy documents such as the National Defense Strategy (DoD, 2008b), the Quadrennial Defense Review (DoD, 2006), the Capstone Concept for Joint Operations (DoD, 2009), and the DoD Information Enterprise Strategic Plan 2010-2012 (DoD, 2010). In order to serve this new focus, each of the military services within the DoD has developed KM programs to varying degrees. Evidence indicates that although the KM programs have been created to align with singular DoD intent, their actual form of implementation varies a great deal from service to service (Bartczak, 2002; Booker, 2006). Additionally, “service-centric” implementation of KM programs has been recognized as possibly hindering overarching Joint “information and knowledge–sharing” objectives (Bartczak, 2002; Booker, 2006). As such, this research attempts to delve further into a comparison of service KM programs. In order to identify the character or nature of any KM program, it is necessary to do so along a variety of dimensions. Among the many frameworks (Holsapple and Joshi, 2002; Leibowitz, 2000; Wiig, 1993, etc.) that have been offered for KM, Stankosky, Calabrese, and Baldanza’s (1999) “Four Pillar Framework” provides a clear articulation of key dimensions of KM (leadership, organization, technology, and learning). As leadership is often viewed as the most important element in successful KM (Davenport and Prusak, 2000; Grover and Davenport, 2001; Liebowitz, 1999,Tirkpak, 2005, etc.) and given that previous research has indicated some issues with KM leadership in the DoD (Bartczak, 2002; Booker, 2006), our comparison of service KM programs begins with an in-depth investigation of this “leadership” dimension. The guiding research question for the research was: “How do KM leadership approaches across the DoD compare?”

LITERATURE REVIEW
KM in the DoD
For over ten years, the DoD has leveraged KM principles to improve information-sharing and support decision-making for warfighters (Office of the Assistant Secretary of Defense (OASD), 2000a; OASD, 2000b; OASD, 2000c). The National Defense Strategy (DoD, 2008b), the Quadrennial Defense Review (DoD, 2006), and the Capstone Concept for Joint Operations (DoD, 2009), and the DoD Information Enterprise Strategic Plan 2010-2012 (DoD, 2010) are key military guidance documents that reflect both the growing importance of the “knowledge”
A Comparative Assessment of KM Leadership Approaches

resource as well as considerations that must be made to better exploit it. The National Defense Strategy specifically identifies the importance of the “knowledge-based enterprise”. While recognizing the lack of a “centralized” DoD KM effort, the DoD Information Management/Information Technology Strategic Plan articulates the role of KM in enabling "effective and agile decision-making" and calls for the creating of a better "knowledge-sharing environment and application of knowledge-sharing concepts during the planning of joint experiments, operational concept development, combat operations and other missions" (DoD, 2008a, pg. 6). Beyond the DoD-level KM objectives, each of the military services, have put into place KM programs to begin to specifically address the "knowledge" emphasis. KM leadership is a consistent focus. Bartczak (2002) found leadership influences such as lack of leadership commitment, lack of KM roles for leading and championing the KM effort, and lack of a rewards system as significant barriers to KM across the U.S. military services. More recently, in 2009, DoD KM leaders convened and, among a number of discussions, highlighted the challenges of Chief Knowledge Officers (CKOs) with regard to elevating their positions in organization hierarchies in order to improve funding of KM programs (Bordeaux, 2009).

Knowledge Management Frameworks
The literature suggests there are three categories of KM frameworks: prescriptive, descriptive, and hybrids of both (Rubenstein-Montano et al., 2001; Holsapple and Joshi, 1999). Examples of prescriptive KM frameworks include Liebowitz (2000) and Ruggles (1997). Examples of descriptive frameworks, as cited in Rubenstein-Montano et al. (2001), include those from the Delphi Group (1999) and Andersen Consulting (2000). In order to develop a comprehensive KM framework, Rubenstein-Montano et al. (2001) recommend a systems approach which allows for a hybrid framework that incorporates both descriptive and prescriptive elements. They state, “Systems thinking can enhance knowledge management through its ability to depict complex, dynamic processes and thus enhance understanding and the ability of knowledge management initiatives to respond to the needs of the organization” (Rubenstein-Montano et al., 2001, p. 6). Among the examples of hybrid KM frameworks such as Holsapple and Joshi (2000), we chose Stankosky et al.’s (1999) and later version, Stankosky (2005), Four Pillar framework as our guide. In addition to the framework’s robust nature (Calabrese, 2000), it has proven “popular” when applied in the public sector context (McNabb, 2007, p. 47).

Four Pillar KM Framework
Stankosky’s Four Pillar framework states there are four fundamental elements or components of KM: leadership/management, organization, technology, and learning (Stankosky, 2005). The details of each pillar (see Fig. 1) are described in further detail on the following page:

- **Leadership/management**: Deals with the environmental, strategic, and enterprise-level decision-making processes involving the values, objectives, knowledge requirements, knowledge sources, prioritization, and resource allocation of the organization’s knowledge assets. It stresses the need for integrative management principles and techniques, primarily based on systems thinking and approaches.

- **Organization**: Deals with the operational aspects of knowledge assets, including functions, processes, formal and informal organizational structures, control measures and metrics, process improvement, and business process reengineering. Underlying this pillar are
A Comparative Assessment of KM Leadership Approaches

system engineering principles and techniques to ensure a flow down, tracking, and optimum utilization of all the organization’s knowledge assets.

- Technology: Deals with the various information technologies peculiar to supporting and/or enabling KM strategies and operations.
- Learning: Deals with organizational behavioral aspects and social engineering. The learning pillar focuses on the principles and practices to ensure that individuals collaborate and share knowledge to the maximum. Emphasis is given to identifying and applying the attributes necessary for a “learning organization.”

Calabrese’s research (2000) later validated these “pillars.” Calabrese (2000) writes, “...no other “model” was discernible as being comparable to the framework postulated by [Stankosky et al., 1999]. More explicitly, no other “model” surfaces that was structured to take a disciplined systems approach to the integration of a defined framework encompassing all facets of an enterprise-wide KM program.” (p.24)

![Diagram of Four-Pillar Framework for KM (Stankosky, 2005)](image)

Knowledge Management Leadership

KM experts agree that leadership and its role within organizational culture is crucial to the success of KM initiatives (Davenport and Prusak, 2000; Grover and Davenport, 2001; Liebowitz, 1999; Alavi & Leidner, 2001). Most KM frameworks, regardless whether prescriptive, descriptive or hybrid, include elements of leadership (Holsapple & Joshi, 1998; O’Dell, Grayson, & Essaides, 1998). Although leadership can be reflected in many ways, key sub-elements of leadership identified by Stankosky et al. (1999) and statistically validated by Calabrese (2000) include:

- Strategic Plans, Vision, and Goals
- Senior Leadership Commitment
- KM Program tied to Metrics
- Formal KM Roles in Existence).
• Tangible Rewards for Use of KM
• KM incorporated in Performance Criteria

Calabrese (2000) sums up the role of leadership with respect to KM by stating, “People want their leaders to set the tone, and create the management practices and organizational structures and policies that will form a culture receptive to knowledge sharing and facilitated through technology tools and networks to achieve a learning-enabled enterprise.” (p. 37)

METHODOLOGY
Knowledge management can be considered a contemporary topic, and, as such, offers little or no control over the research object(s). According to Yin (2003), in such situations, the appropriate research strategy is a case study. Yin (2003) formally defines a case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 13). Similar to other research strategies, case studies can be exploratory, explanatory, or descriptive (Stake, 2005; Yin, 2003). This multiple-case study, specifically, is designed to be descriptive in nature, requiring theory to guide the collection of data to illustrate certain topics within the evaluation; it also answers questions in the form of “how” (Yin, 2003).

Research Question(s)
Again, the overarching research question for this study was: “How do KM leadership approaches across the DoD compare?” Using the elements of leadership pillar of the “four pillar” framework as a theoretical guide, the investigative questions were as follows:

IQ1. How do strategic plans, vision, and/or goals address service-level KM?
IQ2. How does senior leadership demonstrate involvement/commitment to KM?
IQ3. How are metrics/measurements used to assess KM programs?
IQ4. How do established KM offices and/or roles support service-level KM?
IQ5. How are rewards/recognition provided for participation in KM?
IQ6. How do service-level performance goals incorporate KM items?

Unit of Analysis
Explicating the specific unit of analysis is critical to case study research. This particular study can be considered holistic in that it focuses on only one unit of analysis—service KM programs. Each service within the DoD (Army, Air Force, Navy/Marine Corps) was investigated as a separate case. Note: As the Marine Corps KM program is run under the leadership of the Department of the Navy, both the Navy and Marine Corps were evaluated as one case.

Data Analysis
A triangulation technique was used in the collecting the data. Triangulation, the use of multiple sources of data, is a primary principle of the collection process because it strengthens the case (Yin, 2003). Six sources of evidences common in case studies include: documents, archival records, interviews, direct observation, participant-observation, physical artifacts (Stake, 1995; Yin, 2003; Leedy and Ormrod, 2005). Although all of these six sources were used to some degree in collecting the data in this investigation, they were classified into three main categories: documents obtained from service KM portals, other documents obtained from the World Wide Web, and data from interviews with service KM practitioners.
A Comparative Assessment of KM Leadership Approaches

KM Portal Documents.
Relevant documents were first collected from each service’s KM portal. The Department of the Army operates the Army Knowledge Online (AKO) portal; the Department of the Air Force operates the Air Force Portal (AFP) and, specifically for KM, the Air Force Knowledge Now (AFKN) portal; and, finally, the Department of the Navy operates Navy Knowledge Online (NKO) portal. Although each service operates its portal independently, it should be noted that the AKO portal doubles as entry point for the Defense Knowledge Online (DKO) portal which is designed to serve the broader Department of Defense community. Currently, it leverages the AKO infrastructure to provide DoD and joint users with access to a growing network of Defense and Joint enterprise services. As each portal required secure access, an extensive process to gain “permissions” for each of the portals was accomplished. The addressed of the sites investigated included AFP (https://www.my.af.mil), the AFKN portal (https://afkm.wpafb.af.mil), the AKO (https://www.us.army.mil), and NKO (https://www.nko.navy.mil) portal.

World Wide Web Documents.
Additional documents were also collected using web search tools. “Google” was the primary search tool used in this study. Search strings used to gather KM documents from the web included: “service” knowledge and “service” knowledge management, where “service” represents Army, Air Force, Navy or Marine Corps. Of course, not all results of the searches were found to be applicable to the study. Careful scrutiny was given to each artifact, whether obtained from a portal or the web. The origin, author, organization, source, date published, level of authority (headquarters-level or lower echelons of command), and intended audience/recipient were all attributes that were evaluated. For example, draft documents, superseded memorandums, or items lacking service-wide authority were excluded from this study.

KM Practitioner Interviews.
Data from interviews with KM practitioners were the third and final source of evidence. Following recommendations found in Booker’s (2006) review of service KM programs, this study incorporated more interviews in order to collect richer, more robust data. Senior KM practitioners knowledgeable on their respective service-wide KM initiatives were targeted for interviews relating to their service’s KM leadership approach. A total of twelve KM practitioners participated in the study: two from the Army, three from the AF; and seven, including one Marine Corps interviewee, from the Navy. All but one of the participants was a member of or referred by the respective service’s Chief Information Officer (CIO) or KM office. Contact was initially made via email, where a brief background of the study was given that included the purpose of the research, a description of KM leadership based on the Four Pillar framework, and the six investigative questions to be asked during the telephone interview. One participant responded directly to the interview questions via email while the remaining eleven interviews were conducted via the telephone. Although not every participant had KM responsibility across his/her entire service, each was asked to respond to the questions based on his/her knowledge of his/her respective department’s service-level KM initiatives. In instances where the individual’s organization had some service-wide purview, specific organizational examples were occasionally included in responses. At the conclusion of each interview, the participant was asked to
A Comparative Assessment of KM Leadership Approaches

recommend any other KM practitioners in his/her service as additional interviewees for the study.

Criteria for Interpreting Data
Once the data was collected, it was coded (in accordance with Krippendorf, 2004) based on its relationship to and support of the elements of KM leadership explicated in the Four Pillars framework. A data matrix was then created for each service that was comprised of each of the leadership elements and the three categories of sources. Pattern-matching (Yin, 2003) was then used to establish the evidence of support for the KM leadership elements.

Design Quality Criteria
The quality of any empirical social research design, including case study, is commonly judged by four logical tests: construct validity, internal validity, external validity, and reliability (Kidder and Judd, 1986; Yin, 2003; Leedy and Ormrod, 2005). This study addressed each with the exception of internal validity (due to the descriptive nature of the research).

Construct Validity.
According to Kidder and Judd (1986), construct validity deals with ensuring the operational research procedure measures the concept it intended to study. Often problematic in case study research, Yin (2003) recommends using multiple sources of evidence and established a chain of evidence as tactics to achieve good construct validity. As recently explained, this study used multiple sources of data. Additionally, chain of evidence was appropriately preserved and documented.

External Validity.
External validity is the extent to which a study’s findings can be generalized or extended to situations beyond the case study (Yin, 2003; Leedy and Ormrod, 2005). In designing the research, framing the case study using theory and replicating it similar settings help establish external validity (Yin, 2003; Leedy and Ormrod, 2005). As such, this particular study relied heavily upon the existing literature on KM leadership and not only replicated a portion of Booker’s (2006) research on KM across the services, but was replicated across three services on this occasion.

Reliability.
The goal of reliability is to “demonstrate that the operations of the study—such as data collection procedures—can be repeated with the same results” in efforts to reduce any potential errors or biases (Kidder and Judd, 1986, p.26-29). Yin (2003) advises using a case study protocol design to combat such issues and best achieve reliability. For this research, a detailed case study protocol was followed and was detailed to a great extent with the idea that subsequent researchers could replicate it and obtain similar results.

RESULTS AND DISCUSSION
The following section details the findings with regard to the research/investigative questions. A verbal description is provided as well as a final table that summarizes the findings across the services. It should be noted that the full-research piece documented the exact source(s) for each KM leadership element identified, however, all are not included here due to space limitations.
Strong evidence was found to indicate the Army is addressing all elements of KM leadership.

**Strategic Plans, Vision, and Goals.**
Evidence of strategic planning, vision sharing, and goal setting with regard to KM was uncovered via AKO, additional web sources, and through both practitioner interviews. The purpose of Army Knowledge Management (AKM) is to develop a “network-centric, knowledge-based force” (DoA, 2003a). The AKM effort was initiated in 2001 by the Secretary and Chief of Staff of the Army with implementation authority delegated to the CIO/G-6 office. Additional AKM Guidance Memorandums published by the Secretary and Chief of Staff provide continued guidance and direction for AKM efforts. AKM is integral to the transformation efforts to become the future force as outlined in Army Field Manual Instruction No. 6-01.1, Knowledge Management Section (DoA, 2008a), Army Regulation (AR) 25-1: Army Knowledge Management and Information Technology (DoA, 2008b), and TRADOC Knowledge Management Strategic Plan v.6 (DoA, 2008c). In the TRADOC Knowledge Management Strategic Plan, the vision of AKM is stated as:

A transformed Army, with agile capabilities and adaptive processes, powered by world class, network-centric access to knowledge, systems, and services, interoperable with the Joint environment.

Also detailed in the plan, are its five strategic goals:
Goal 1: Adopt governance and cultural changes to become a knowledge-based organization.
Goal 2: Integrate knowledge management concepts and best practices to promote the knowledge-based force.
Goal 3: Manage the infostructure as an enterprise to enhance capabilities and efficiencies.
Goal 4: Institutionalize Army/Defense Knowledge On-line (AKO/DKO) as the enterprise portal to provide universal secure access for the entire Army.
Goal 5: Harness human capital for the Knowledge-based organization.

The plan further lists and describes objectives to obtaining each of the goals. The purpose of establishing and working toward the AKM goals and objectives is to manage the Army infostructure as an enterprise and to align the Army with the Global Information Grid and the Future Force (DoA, 2008b).

**Senior Leadership Commitment.**
The Army’s commitment to KM was evident regardless of source. From the most senior ranks, Army leaders are committed to KM and provide the necessary guidance and direction through memorandums, regulation, plans and other policy. The Army Chief of Staff and Secretary of the Army signed and distributed the AKM guidance memorandum #1, which briefly introduces AKM and its five goals Army-wide (Shinseki & White, 2001). The Vice Chief of Staff for the Army signed a 220-page Headquarters Department of the Army: The Army Knowledge Management Implementation Plan that details specific steps necessary to achieve the vision and
goals (DoA, 2003b). Not only does *Army Regulation 25-1* detail the purpose, strategy, vision of AKM and roles within it, but it also mandates familiarity with them by all Army members (DoA, 2008b). Additionally, the Army has invested in future knowledge workers through their Army Knowledge Leaders scholarship program. This program brings in top college business and IT-major graduates for two years of intensive academic training, hands-on experience, and mentoring in IT management and leadership.

**KM Program Tied to Metrics.**
All the sources of evidence indicated the Army’s KM program makes good use of metrics. The AKM Strategic Plan mandates that the CIO will track and measure AKM progress and accomplishments by evaluating the performance of the goals, objectives, and initiatives. Within the Army, the primary organization for training and education is the Training and Doctrine Command (TRADOC). TRADOC has maintained a strong focus on KM within the Battle Command Knowledge System (BCKS) division. The BCKS directorate was found to have a team on staff that assists organizations in assessing their KM processes and metrics. As evidence of the focus on measuring outcomes, BCKS recently published an article, *Trends in Knowledge Assessments* (McGurn, 2010) in the online journal, *Connected*. Finally, both the AKM’s strategic and implementation plans reference using a balanced scorecard system, benchmarking best practices, and establishing meaningful metrics or numerical standards for measurement.

**Formal KM Roles in Existence.**
A variety of KM roles have been established within the Army. *Army Regulation 25-1* and *Army Field Manual Instruction No. 6-01.1, Knowledge Management Section* specifically outlines the KM organization structure, roles, and responsibilities. The G6/CIO, for example, is designated as the functional directorate to lead KM efforts across the Army and is where the primary KM leadership offices reside. A Chief Knowledge Officer is appointed who leads KM efforts, and TRADOC & BCKS are responsible for operational implementation and training.

**Tangible Rewards for Use of KM.**
The Army was found to have an established KM awards program. The Army Knowledge Awards program is conducted annually at a conference. The awards program recognizes outstanding AKM initiatives.

**KM Incorporated in Performance Criteria.**
A variety of KM guidance documents, including the AKM Implementation Plan (DoA, 2003b) reflected the need assess KM activities as they related to Army key performance indicators. Several offices are required to determine relevant performance criteria for various KM related tasks. Many of these criteria must be reported via the Key Performance Metrics Monitor and Strategic Readiness System. This system is an integrated management and measurement system that ensures that all levels of the Army recognize and align their operations to the vision, objectives, and initiatives of *The Army Plan* and measures each element’s success in achieving these goals. The system” is mission-focused, evaluates strategic readiness, links readiness to resourcing decisions, leverages web-based automation, and focuses on the Army’s future capability to perform its missions” (DoA, 2003a).
A Comparative Assessment of KM Leadership Approaches

Department of the Air Force
Some weak to moderate evidence was found to indicate the Air Force is addressing all elements of KM leadership.

Strategic Plans, Vision, and Goals.
The value of managing knowledge was first identified in an AF vision document, *AF Vision 2025*. Within it, one of the goals stresses the importance of deliberate actions enabled by knowledge (DoAF, 2006). In the past, KM has been briefly mentioned in the *Air Force Information Strategy* (DoAF, 2002) and further expounded upon in the *Information Resources Flight Plan* (DoAF, 2004), both published by the Air Force’s Chief Information Officer (CIO) office. However, as of 2010, no KM-specific strategic plans, visions, or goals could be found. Despite this lack of high-level guidance and authority, a 2004 memorandum from the Air Force CIO to the Air Force Materiel Command (AFMC) Vice Commander, did delegate responsibility for service-wide Air Force KM efforts to the AFMC Center of Excellence for Knowledge Management. This Center of Excellence is often referred to as Air Force Knowledge Now (AFKN). AFKN provides (via a KM system or collaboration tool also called AFKN) users with the resources to create and build individualized communities of practice (CoP). The interview responses conflicted. While one practitioner referred to only joint doctrine for KM strategic plans, another referenced working on drafts of Knowledge-Based Organization (KBO) and Knowledge-Centric Operations (KCO) concepts. The third respondent flatly stated there is no focus on service-level KM and there was no KM-specific strategy, officially on paper, within the AF.

Senior Leadership Commitment.
While several AF publications, such as the *USAF Strategic Planning Directive for FY 2006-2023* and *USAF Transformation Flight Plan—November 2003*, acknowledged the importance knowledge to AF activities, they did not necessarily demonstrate commitment to KM specifically. The absence of recent authoritative documents with regard to KM seem to indicate a lack of senior leadership commitment. The interview responses were also mixed. According to one interviewee, leadership support exists, evidenced by some time and resource commitment to KM. Another interviewee added Air Force leaders outsource to meet KM needs. A third respondent, however, acknowledged that although there is some effort to do more with KM, there is hesitance from leadership and very little funding.

KM Program Tied to Metrics.
Although the data revealed some evidence of discussion with regard to KM metrics, the interviewees confessed there is not yet an official KM metrics program in the AF. The majority of KM metrics identified were primarily used to assess AFKN system usage. The *Information Resources Flight Plan* (DoAF, 2004) was noted to address two qualitative metrics in its appendices—a milestone for published a program’s “lessons learned” AF-wide and another for achieving 100% access to CoIs/CoPs through the AFP and AFKN. Overall, however, the respondents acknowledged the difficulty in addressing KM metrics.
A Comparative Assessment of KM Leadership Approaches

**Formal KM Roles in Existence.**
The only formal role associated with KM identified involved the delegation by the AF CIO of responsibility for service-wide Air Force KM efforts to the AFMC Center of Excellence for Knowledge Management. The staff at the Center of Excellence for Knowledge Management, however, are focused primarily on promoting use, and the upgrade and maintenance of the AFKN system as opposed to higher-level, AF-wide KM efforts. Although one interviewee worked KM issues from within the AF CIO’s office, there is no official, dedicated KM staff function. Similarly, the AF has not designated a Chief Knowledge Officer.

**Tangible Rewards for Use of KM.**
The only program identified that rewards the use of KM is led by the AFMC Center of Excellence for Knowledge Management. Since 2003, Community of Practice (CoP) of the Quarter and CoP of the Year awards have been given out. These awards focus on the use of the AFKN system by self-organizing communities of practice in order to improve the efficiency and effectiveness in mission operations. In addition to receiving a certificate and photograph, the recipients are awarded a free conference trip. The interviewees stated the program has been a great success in creating excitement for KM and encouraging others to follow suit. In fact, the finance function within the Air Force (SAF/FM) has adopted a similar award program of its own.

**KM Incorporated in Performance Criteria.**
There was little data uncovered to show how aspects of KM might be directly incorporated into performance criteria.

**Department of the Navy**
Some strong to moderate evidence was found to indicate the Navy/Marine Corps is addressing all elements of KM leadership.

**Strategic Plans, Vision, and Goals.**
In October 2005, the Department of the Navy (DON) CIO published a memorandum to communicate the Navy's KM strategy (DoN, 2005). This memorandum established a KM vision to create, capture, share, and reuse knowledge to enable effective and agile decision-making, increase the efficiency of task accomplishment, and improve mission effectiveness. Interviews revealed that in order to realize this vision, a four-fold strategy was developed to: 1) broaden and expand Departmental awareness that KM concepts, when applied to the operational and business processes of any command, will enable significant improvements in mission accomplishment; 2) encourage commands to implement KM programs, structure, pilots, and methodologies as part of process improvement efforts; 3) assist commands with KM experience to share their experiences, lessons learned, and results to foster collaboration, enable shortened learning cycles, and assist other efforts; and, 4) assist commands embarking on new implementations to build upon the experiences and resources of others. This memorandum further clarified seven focus areas in order to effectively implement this strategy which included included KM advocacy, training and education, culture change, CoPs, KM collaboration, KM tools, and KM integration with related initiatives. The memorandum concluded by directing commanders to use KM concepts and tools to improve business and warfighting effectiveness, share KM best practices and resources, and continue to champion KM as a critical enabler of force transformation. The DoN CIO Campaign
Plan 2010 (DoN, 2010a) also highlighted the continued importance of KM by specifically citing the need to improve information sharing and KM capabilities. This same Campaign Plan 2010 specifically identifies the need to develop follow-on strategies for KM as well as provide assistance to Navy organizations in applying KM tenants and implementing KM programs.

**Senior Leadership Commitment.**

The existence of the aforementioned strategic plans, vision, and goals are a first reflection of senior leadership commitment. Other examples of commitment are revealed via the DoN Cyber/IT Workforce Strategic Plan FY 2010-2013 (DoN, 2010b) which identifies KM as a “specific workforce role” and sets out specific goals and objectives that will allow the DON to recruit, manage, develop, sustain, and retain a qualified workforce. One interviewee, however, commented that the DON KM strategy memorandum is more encouraging than a directive. He remarked, that the Chief Naval Officer and other senior leadership are not very involved and, as a result, KM is not being executed operationally throughout DON.

**KM Program Tied to Metrics.**

The Navy was the only service found to have published guidance that specifically addressed metrics for KM. This guide, *A Metrics Guide for Knowledge Management Initiatives* (DoN, 2001), was published by the DON CIO office. The guide explains the role and value of metrics, what should be measured, and options for how. Interviewees stated, however, that despite the guide, most KM metrics were primarily confined to gauging “system use” or website “hits” for NKO and the communities of practice (CoPs) contained within.

**Formal KM Roles in Existence.**

Although there is no appointed Chief Knowledge Officer (CKO) for the Navy, there is a KM team situated within DON CIO office that is responsible for department-level KM governance. Operational KM is, however, focused on its two main postures: in-garrison and at sea. DON CIO works with in-garrison implementation while Tactical Training Group Pacific is delegated responsibility for many “at sea” issues. The DoN Cyber/IT Workforce Strategic Plan FY 2010-2013 (DoN, 2010b), identifies a specific workforce role in KM.

**Tangible Rewards for Use of KM.**

Evidence revealed no department-wide awards program specifically focused on KM. The annual DON IT/IM Excellence Awards, however, rewards efforts toward information sharing and information management that enables significant achievement in advancing the DON's vision to manage knowledge to enable effective decision-making. Interviews revealed some commands, such as the Naval Personnel Development Command, have instituted a KM awards program of their own.

**KM Incorporated in Performance Criteria.**

At the time of the research the DON CIO website indicated that it was in the process of developing of an information management/information technology performance measurement system that focuses on performance-based outcomes which ensures that the methods of identifying, collecting and analyzing data will lead to quantifiable measures of success. The purpose was said is to align programs within the DON CIO, ensuring that they are non-
A Comparative Assessment of KM Leadership Approaches

duplicative, comprehensive and link to the DON IM/IT Strategic Plan. To do this the DON CIO states it is identifying and leveraging the performance measurement best practices of DoD components, other federal agencies, academia and industry to develop enterprise-level metrics. Additionally, the *Metrics Guide for Knowledge Management* urges for KM metrics to be tied to performing mission objectives.

<table>
<thead>
<tr>
<th>Elements of KM Leadership</th>
<th>AF</th>
<th>Army</th>
<th>Navy</th>
</tr>
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<tbody>
<tr>
<td>Strategic plan/ vision/goals</td>
<td>Weak evidence</td>
<td>Strong evidence</td>
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<tr>
<td>Senior leader commitment</td>
<td>Weak evidence</td>
<td>Strong evidence</td>
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</tr>
<tr>
<td>KM program tied to metrics</td>
<td>Weak evidence</td>
<td>Strong evidence</td>
<td>Moderate evidence</td>
</tr>
<tr>
<td>Formal KM offices/roles</td>
<td>Weak evidence</td>
<td>Strong evidence</td>
<td>Moderate evidence</td>
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<tr>
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<td>Moderate evidence</td>
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<td>Performance criteria include KM items</td>
<td>Weak evidence</td>
<td>Strong evidence</td>
<td>Weak evidence</td>
</tr>
</tbody>
</table>

Table 1. Comparison of KM leadership approaches across the services based on evidence of KM leadership elements

DISCUSSION

Analysis revealed all three services exhibit evidence of KM leadership (see Table 1). Although approaches differ in approach and depth, the leadership elements of strategic planning, senior leadership commitment, formal KM roles, and rewards for KM appear to have the strongest emphasis. The findings suggest the Army’s approach is the most comprehensive. The Army’s most senior leaders, the Chief of Staff of the Army and Secretary of the Army, are directly involved in KM. They directed the development of the AKM strategic plan and designated a CKO within the CIO office as the service KM lead. Additionally, they mandated familiarity with the AKM strategic plan and goals service-wide. In addition to KM strategic plans, specific goals, regulations, awards programs and performance metrics have all been developed that all align to communicate a singular message. AKM is not an option but the Army’s way of business to achieve its transformational vision. While the Navy doesn’t have a designated CKO, they do have a KM team at Headquarters level within the CIO office. This team provides service KM policy and guidance, conducts the KM-related awards program, and works operational issues with Tactical Training Group Pacific. The Navy has also published KM-specific literature and guidance that encourages KM as a part of everyday operations, but is not as robust or mandate-oriented as the Army. Finally, as for the AF, although there is some recognition of the importance of managing knowledge, there is very little evidence of high-level leadership commitment to KM. The AF has no designated CKO and no KM office or champion at the Headquarters level—only the AFMC Center of Excellence for Knowledge Management situated organizationally at a lower major command level. The Center of Excellence has done well, however, in leading CoP-centric KM efforts across the AF as well as leading the very popular CoP award programs. In contrast, the services appear to be weakest at tying KM programs to
A Comparative Assessment of KM Leadership Approaches

metrics and incorporating KM into performance goals. The services are similar in that most metrics currently in use focus mainly on KM (i.e. KM portal) usage, although the Army and Navy are working to broaden their approaches.

LIMITATIONS
The data collected was limited to the accessibility and availability of the departments’ KM portals, documents, and practitioners. The” guest” accounts for the AKO and NKO portals, for example, may have restricted access from certain valuable data. Also, the availability of interview data was limited to the KM practitioners (interviewees) who were invited and agreed to participate in the study—more from some departments than others. Additionally, the quality of data depended on the interviewee’s familiarity and level of responsibility for KM.

IMPLICATIONS FOR THEORY AND PRACTICE
The implications of this research with regard to practice indicate that military services of DoD are involved with KM to some extent, but each approach KM leadership in varying ways. Reflecting on the KM literature (Davenport and Prusak, 2008), the Army can be said to exercise a top-down approach, while the AF bottom-up, and the Navy a combination of both. More specifically, as evidenced by display of findings with regard to the desired elements of KM leadership highlighted by the Four Pillars framework, the Army provides a good example of an all around, robust KM leadership approach. The Navy/Marine Corps and the AF do well at addressing at least some elements of KM leadership. Organizations embarking on KM efforts could benefit and learn from what the services have done, especially the Army, in designing their own approaches. The services do seem to be lacking with respect to utilizing metrics and tying KM into performance criteria. This is not surprising as the KM literature recognizes these same issues in other organizational contexts (Jennex, 2006). Interestingly, and ironically, it appears the services could benefit from some “KM with regard to KM.” Given that all of the services belong to the DoD and that “joint operations” have become the standard, it would seem that collaboration across the services with respect to all aspects of KM, including leadership, could create synergy, facilitate consistency in “message and approach”, promote resource savings, and provide additional impetus for knowledge-sharing across service stovepipes rather than within them. Finally, the implications for theory involve an addition to the body of research concerning KM leadership—this being an in-depth look within a unique the military context. Stankosky et al.’s (1999) Four Pillar framework as validated by Calabrese (2000), provided a robust theoretical framework for all the aspects of KM leadership encountered during the research. The findings indicate that it would serve the services well as a guide for continuous improvements in KM leadership.

REFERENCES
A Comparative Assessment of KM Leadership Approaches


A Comparative Assessment of KM Leadership Approaches


A Comparative Assessment of KM Leadership Approaches


Holsapple, C. W. and Joshi, K. D. (1999). Description and Analysis of Existing Knowledge Management Frameworks. *Proceedings of the 32nd Hawaii Conference on Information System Sciences, Maui, HI.*


A Comparative Assessment of KM Leadership Approaches


