

ARMY KNOWLEDGE MANAGEMENT PRINCIPLES

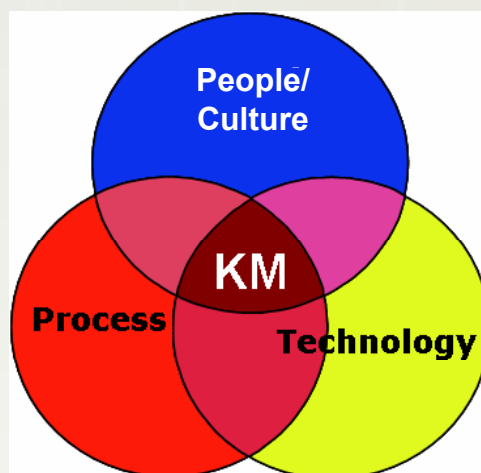
The Army Knowledge Management Principles transcend technology advancements, mission, policy or organizational changes. They embrace an enterprise focus. The principles are organizationally independent; that is, they apply to most enterprises. The examples included, however, are Army examples. Further Army Knowledge Management (KM) guidance will be developed and executed through revisions to Army regulations, field manuals, doctrine, policies, and procedures which will delineate roles and responsibilities.

The objective of the KM Principles is to connect those who know with those who need to know (know-why, know-what, know-who, and know-how) by leveraging knowledge transfers from one-to-many across the Global Army Enterprise.

The principles are organized around the main tenets of knowledge management: people/culture, process, and technology working together to facilitate knowledge sharing. (*See Fig. below*)

Twelve key principles are featured. Each principle is followed by a rationale and implications section. Annexes include: a futuristic scenario illustrating the principles, reference materials, and a glossary of terms. The principles will be posted on Army Knowledge On-Line (AKO) <https://www.us.army.mil/suite/page/doc/10713107>.

The Army CIO/G-6 will issue a policy to ensure an enterprise focus to KM efforts. Army commands and organizations will develop KM practices and systems with an enterprise perspective with the latitude to tailor KM practices to specific missions.



What is Army Knowledge Management?

Knowledge management is a discipline that promotes an integrated approach to identifying, retrieving, evaluating, and sharing an enterprise's tacit and explicit knowledge assets to meet mission objectives. The objective of the principles is to connect those who know with those who need to know (know-why, know-what, know-who, and know-how) by leveraging knowledge transfers from one-to-many across the Global Army Enterprise.

End State

Implementing these principles will create a culture of collaboration and knowledge sharing in the Army where key information and knowledge is "pushed and pulled" within the global enterprise to meet mission objectives -- an Army where good ideas are valued regardless of the source, knowledge sharing is recognized and rewarded and the knowledge base is accessible without technological or structural barriers.

INTRODUCTION

The challenges facing the US Army and the national security community cut across agency missions, organizational boundaries, and uncertain and rapidly changing political and military environments. In multi-disciplinary, multi-organizational, and joint military environments, those who innovate, learn, rapidly adapt, and act decisively will prevail against adversaries. This enduring principle applies across the Army enterprise from the generating force to the operational force, from business systems to warfighting systems-of-systems, and from military strategy to squad-level tactics. The challenge is to connect those who know with those who need to know (know-why, know-what, know-how, and know-who) by leveraging tacit and explicit knowledge transfers from one-to-many across the enterprise to meet mission objectives. Military strategy and operations depend on consistent but rapidly adaptable decision making across the Army, other military services and agencies, allies, and with non-governmental organizations. Hence, a natural tension exists when each Army unit or organization brings its own policies, procedures and technology to collaborate and share their intellectual capital across their unit, discipline, or function. Without consistent strategy and policy, units and commands will generate islands of information and knowledge inaccessible to others. This is a recipe for disaster from an enterprise perspective.

The Army Knowledge Management Principles create a consistent framework so warfighters and business stewards can innovate, evaluate alternate courses of actions within context of local conditions, and act quickly and decisively. Most importantly, the Army Knowledge Management Principles will help preserve tacit and explicit knowledge and accelerate learning as units and personnel rotate in and out of theaters or organizations. They also serve as grist for revised doctrine. Additionally, the Army Knowledge Management Principles anchor knowledge management efforts as an Army-wide enterprise function vice a unit or business function. For example, it makes sense that, if the 2nd Brigade Combat Team of 10th Mountain Division discovers new ways in which insurgents are triggering and deploying IED/EFP's in Afghanistan that the context-specific tacit and explicit knowledge is shared with Soldiers and Marines in Iraq, Philippines, Djibouti, Colombia and with Soldiers in CONUS who will soon deploy. It also makes sense when new procurement procedures are developed at the Army Materiel Command they are shared with other commands who procure materiel and services.

By adhering to and applying the following principles, the Army, as an enterprise, will accelerate individual, team, and organization learning to meet mission objectives.

KNOWLEDGE MANAGEMENT PRINCIPLES

The principles provide authoritative guidance to Army Commands and organizations developing or engaging in knowledge management efforts. Annex A provides definitions of the terms.

People/Culture Dimension

Principle 1 – Train and educate KM leaders, managers, and champions.

Rationale: To create a culture of collaboration, the Army needs to educate the next generation KM change agents who understand KM Principles and technologies and can effect change to accelerate meeting mission objectives.

Implications: Curriculum development and instructional delivery methods identified to train and educate the force in KM competency at all levels of the Army.

Principle 2 - Reward knowledge sharing and make knowledge management career rewarding.

Rationale: What gets rewarded in organizations gets done. Reward structures guide organizational and individual behavior.

Implications: Establish KM career fields, where appropriate, and insert performance elements into NSPS, OERs, and NCOERs to evaluate knowledge sharing contributions.

Principle 3 – Establish a doctrine of collaboration.

Rationale: A collaborative environment fosters new ideas, understanding, and ways to execute the commander's intent.

Implications: Leaders need to incorporate the Core Principles of Collaboration into their business procedures and human resources practices.

Core Principles of Collaboration

1. Responsibility to Provide - “need-to-share” should be replaced by “responsibility to provide”.
2. Empowered to Participate - Soldiers and Civilians are empowered to participate and share insight in virtual collaborative communities without seeking prior permission.
3. User-driven - Collaborative communities are self-defining, self creating, and adaptable. Users own the collaborative community, not IT providers.

Principle 4 – Use every interaction whether face-to-face or virtual as an opportunity to acquire and share knowledge.

Rationale: Continuous learning is an expected day-to-day activity. Learning faster than adversaries or competitors yields short and long-term results.

Implications: Leaders need to frame day-to-day activities as learning opportunities to accelerate knowledge acquisition and transfer. Promote learning in teams and in informal and formal social networks.

Principle 5 – Prevent knowledge loss.

Rationale: Knowledge is perishable. It has a life cycle. The life cycle can't begin until it is documented and assessed for its value.

Implications: Assess what is valuable from past activity, document it, and share with those who need to know.

Process Dimension

Principle 6 – Protect and secure information and knowledge assets.

Rationale: Denying adversaries access to key information gives US and coalition forces the decisive advantage to securely communicate and collaborate across geographic and organizational boundaries.

Implications: Balance risks regarding “need to know” against “need to protect”. Requires leaders of knowledge communities to comply with relevant information assurance regulations and policies.

Principle 7 – Embed knowledge assets (links, podcasts, videos, documents, simulations, wikis...) in standard business processes and provide access to those who need to know.

Rationale: Leverage digital media to add context, understanding, and situational awareness to operations and business activities.

Implications: It is incumbent on leaders to creatively embed and use digital media (podcasts, videos, simulations, wikis...) in training routines and operations to add to or leverage the existing knowledge assets of the Army. Convert intellectual capital (ideas, best known practices) to structural capital (anything that is digitized and accessible and searchable by others). Verify content for legality and desired outcome.

Principle 8 – Use legal and standard business rules and processes across the enterprise.

Rationale: Established business rules and processes are repeatable, reducing learning curves and promoting consistent quality products and services.

Implications: Follow standard business rules and processes set by the Army and the Department of Defense (DoD). Modify and evolve business rules to meet the commander’s intent and quickly adapt business processes to meet or anticipate emerging

threats or business opportunities (situational awareness). Lean Six Sigma and continuous process improvement principles apply.

Technology Dimension

Principle 9 – Use standardized collaborative tool sets.

Rationale: Training on and using common collaborative software tool sets reduces training and maintenance costs while creating a common platform for data, information, and knowledge exchange in theaters and with other partners and organizations. It reduces impediments to searching for relevant knowledge across the enterprise.

Implications: Use approved Army and DoD collaborative tools sets. Train and deploy with them. Provide access to structural capital to accelerate learning curves and adopt/modify best known practices.

Principle 10 – Use Open Architectures to permit access and searching across boundaries.

Rationale: Create seamless and ubiquitous service-on-demand when one client application requests one or more services for another application which provides complimentary services.

Implications: KM applications need to be designed and operate with an enterprise focus, permitting access and searching across systems and organizations without technical or structural impediments.

Principle 11 – Use a robust search capability to access contextual knowledge and store content for discovery.

Rationale: With the exception of classified information, knowledge bases should be accessible and searchable by search engines that deliver contextual knowledge and information.

Implications: In the design and operation of KM systems, leaders need to ensure that there are no organizational or technical barriers blocking access to digital media residing in knowledge bases. Use appropriate content management principles.

Principle 12 – Use portals that permit single sign-on and authentication across the global enterprise including partners.

Rationale: Using the Army’s enterprise portal for access and authentication lessens confusion for users and provides a standard process for accessing enterprise knowledge assets while reducing total cost of ownership of other portals, websites or knowledge networks.

Implications: Use AKO/DKO or successors as your portal of first choice. AKO is centrally funded by the HQDA CIO/G-6 and is available to Army commands and organizations at no additional cost.

THE SPC ALFREDO STORY

-An Army “Enterprise” Future Perspective-

Annex 1 – Futuristic scenario illustrating the Army Knowledge Management Principles

The SPC Alfredo story highlights the principles of Army Knowledge Management. All twelve principles are represented either explicitly or they are implied. The purpose of embedding the principles in the story is to give the reader of the strategy examples of the principles in an understandable context. The Army Knowledge Management Principles are listed in the sidebar.

Time & Setting:

1810 hours, August 15, 2012, “Ft. Apache” a forward operating base along the Afghanistan/ Pakistan border in the Konar Province

Act 1 – Mission Prep

SSG Santiago Dominguez of the 1-41 Infantry, 1st ID, is preparing for tomorrow’s mission; recon of new entry routes by Taliban forces into Afghanistan. Eyes and ears and boots on the ground are still important even in a high tech SIGINT world where satellites and sensors can detect body movement day or night. He activates his handheld PDA that looks like a ruggedized iPod via voice commands and gains access to the DKO pocket portal using a secure wireless connection (*Principles 12,6*). Multinational Information Sharing (MNIS) improvements allow timely, trusted and accurate information to be passed among coalition partners. DKO has pushed the latest information on the Taliban movement to him (*Principles 8,9*). He couples that information with mission specific intelligence from his superiors.

He wants to put the intelligence in context. He also downloads three 5-minute podcasts on IED/EFP’s from his IED community of practice (KnIFE) (*Principles 7,5*). One “cast” was produced a week ago by SPC Bruce Hansen who, saved him in 2009 by providing a great IED “cast” showing close-up and panoramic views of a craftily placed IED in Helmand province (*Principles 3,5*). He downloads another “cast” provided by Marines stationed in Djibouti (*Principle 11*). It’s based on operations in Somalia and other unnamed E. African countries. The third “cast” is from 10th Army Special Forces Group in Bogotá, Colombia. They have experience with the Revolutionary Forces of Colombia who, years ago, learned it from Irish Republican Army operatives. Dominquez inherently trusts the “just-in-time” knowledge in the “casts” since they are produced by operators in the field. Couple that with the fact that fellow Soldiers and Marines in the IED community have given these “casts” 4-star ratings using the DKO rating scheme (*Principle 4*). He bundles all the background information, intel, and podcasts and sends it to each squad member’s handheld PDA’s. He expects the troops to watch the podcasts with the same enthusiasm as they do the latest music video (*Principle 4*).

The information below illustrates key knowledge management principles. The principles are italicized in parenthesis in the article.

Principle 1 – Train and educate KM leaders, managers, and champions.

Principle 2 – Reward knowledge sharing and make KM career rewarding.

Principle 3 – Establish a doctrine of collaboration.

Principle 4 – Use every interaction whether face-to-face or virtual as an opportunity to acquire and share knowledge.

Principle 5 – Prevent knowledge loss.

Principle 6 – Protect and secure information and knowledge assets.

Principle 7 – Embed knowledge assets (links, podcasts, videos, documents...) in standard business processes and provide access to those who need to know.

Principle 8 – Use standard business rules and processes across the enterprise.

Principle 9 – Use standardized collaborative tools sets.

Principle 10 – Use Open Architectures to permit access and searching across boundaries.

Principle 11 – Use a robust search capability to access contextual knowledge and store content for discovery.

Principle 12 – Army Knowledge Online (AKO) or Defense Knowledge Online (DKO) is the preferred portal and access point to all Army enterprise knowledge assets.

2015 hours

In the dim light of their spartan quarters, Dominguez calls his squad together to discuss Thursday's mission (*Principle 4*). The squad members know that the "fused" information may provide context-specific knowledge that may save their lives. Dominguez focuses the discussion on key elements of the podcasts re: location of IED's and new triggering mechanisms in mountain operations (*Principle 4*). He wants SPC Tony Alfredo to pay close attention since at "0-dark thirty", Alfredo will be on point. They talk about and share what they learned from the podcasts in language that their mothers would not approve of (*Principles 4,3*). They also talk about producing their own podcast on IED/EFP's since they have six months of experience in-country and have new insight into how the bad guys from S. Waziristan are planting IED's (*Principles 4,3*). They are proud of their accomplishments to-date and have good ideas to share (*Principles 2,3*).

Act 2 - Mission Execution

August 16, 2012 0530 hours

SSG Dominguez's squad pulls out of Ft. Apache. But things start going to hell in a hand basket before the squad arrives at their designated recon vantage point. The bad guys hit Dominguez's squad with RPG's and small arms fire. They even lob in a few mortar shots that land nearby. One lucky mortar shell explodes next to Alfredo and sends a burning piece of shrapnel into his neck. The shrapnel penetrates the left side of his neck in that vulnerable area between his flak vest and helmet. It lodges close to the spine. Alfredo's comrades let loose with suppressing fire while SPC Jackson, the medic, rushes to Alfredo's aid. He assures him he is OK but he cannot move his legs or arms. Alfredo is raced back to Ft. Apache where he is fitted with a medical "bracelet", that is RFID/GPS encoded, containing personal information, his initial diagnosis, and a medical priority indicator. He is MEDEVAC'd to Bagram where his condition is already displayed on computer screens before he arrives. Maj Marie Cou, a USAF neurosurgeon, is on standby. Prior to Alfredo's arrival she accesses "Spinal Tap," her community of neuro and spinal surgeon's, quickly refreshes her memory re: the steps she needs to go through since she is a head surgeon and not a neck specialist (*Principle 4*). She feels confident that she has the collective knowledge base of armed forces and trauma surgeon communities at her disposal (*Principles 4, 5, 7*).

Act 3 - Mission Aftermath

0730 hours

Alfredo is wheeled into the station hospital. He is conscious, but afraid because he can't move his limbs. Maj Cou stabilizes SPC Alfredo and confirms the extent of the damage and accompanying paralysis.

Principle 2 - Reward knowledge sharing and make knowledge management career rewarding.

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Principle 9 – Use standardized collaborative tool sets.

The initial medical assessment starts a cascading series of “electronic” events all triggered by information contained in Alfredo’s medical bracelet. She prepares SPC Alfredo for transport to Landstuhl in Germany for delicate spine surgery and continuing treatment at DeWitt Army Hospital at Ft. Belvoir.

Landstuhl, Germany

Prior to surgery Col Anderson, chief of surgery at Landstuhl, posts a 30 second video request to his trauma surgeon CoP for the latest on less invasive surgical techniques in neck surgery (*Principle 3*). He’s hoping something new will help him minimize the risk of permanent paralysis in Alfredo’s case. He gets a quick response from Dr. Phillip Black, a head and neck surgeon at Georgetown Hospital (*Principles 8,9*). It’s like a Vulcan mind-meld between the two of them as they video chat via DKO about the nuances of a new technique, each using plastic anatomically correct replicas of the neck to illustrate their key points (*Principles 4,5*). Col Anderson feels more confident with his new found knowledge and successfully removes the shrapnel from SPC Alfredo’s neck. The extent of his paralysis is still unknown. Time will tell.

At the same time, SPC Alfredo’s wife and parents are notified in-person by LTC Harris of the extent of his injuries. He suggests that they may want to go to a DKO website so they can track his medical progress on a site custom tailored to his type of injury. The site tracks SPC Alfredo’s whereabouts, much like FedEx tracks packages, but with all resources and links provided tailored to the extent and nature of his injuries. The site shows where he is in the hospital (radiology, surgery, recovery) and will also track his progress home via Andrews AFB to DeWitt Army Hospital.

Human Resource Command’s Casualty and Mortuary Affairs Operations Center notifies SPC Alfredo’s family about its services. A profile of SPC Alfredo and his family is compiled and used to inform the Wounded Warrior Comprehensive Recovery Team at DeWitt. No longer focused solely on the treatment and rehabilitation of wounded Soldiers, this team uses the profile information to quickly assess the types of services and support Mrs. Alfredo may need upon her arrival at the hospital. Concurrently, the Family Readiness Support Assistant back at Alfredo’s home station, Ft. Riley, has been notified and started their FRG activities. In a short amount of time, SPC Alfredo’s and his Family’s support network has expanded to include his commander and unit, the FSG at Ft. Riley, and the Comprehensive Recovery Team at DeWitt. Based on their credentials, DKO grants appropriate levels of access to each so they can track the evacuation, treatment and rehabilitation of SPC Alfredo (*Principle 6*). Benefits and entitlements are delivered to SPC and Mrs. Alfredo without unnecessary applications and bureaucracy that plagued the system in the past. Even the disposition of his field equipment back in Afghanistan is accounted for and inventoried.

SPC Alfredo's recovery and rehabilitation is slow at first, but accelerates after he receives words of encouragement and videos from his buddies in theater. In the past, this would be a period of significant angst for the Soldier and his Family; a potential end to what was a promising career, loss of income, job security, and dealing with a possible lifelong disability. Today, the Comprehensive Recovery Team using an automated disability process, web-based knowledge centers, interactive tools to track medical progress and accompanying services, serves as a virtual Soldier-Family Assistance Center. Much of the family angst has been eliminated. SPC Alfredo and his Family can now make informed decisions about his future. Fortunately for him, he recovers from his injuries and is reunited with his buddies just as they redeploy home.

Note:

Principle 1 (Train and educate KM leaders) and 10 (Use Open Architectures) are implied in the scenario.

ANNEX A

GLOSSARY OF TERMS

Army Knowledge Online (AKO) is the US Army's main intranet portal. It includes a more restricted intranet containing classified information. The main AKO Intranet serves millions of registered users, including active duty and retired service personnel and their family members, and provides single sign-on access to over 300 applications and services.

Collaborative Tool Sets include Adobe Connect and IBM's Sametime. Adobe Connect, formerly known as Macromedia Breeze, is a secure, flexible web communication system that enables IT professionals to support and extend the functionality of Adobe Acrobat Connect Professional to provide enterprise web communication solutions for training, marketing, enterprise web conferencing, and online collaboration. The product can be licensed as an installed product or a hosted product. Sametime, formerly known as IBM Lotus Instant Messaging & Web Conferencing, is software from Lotus for group collaboration over the Internet. It is a synchronous groupware application that was designed to facilitate communication among geographically dispersed coworkers and others. The purpose of real-time collaboration products is to approximate, as closely as possible, the experience of face-to-face meetings. These products were developed around the essential components of awareness, ease of conversation, and the ability to share objects.

Defense Knowledge Online (DKO) is an adaptive and agile enterprise portal for the DoD community that utilizes current and future net-centric technology to enable a framework that empowers knowledge dominance, ensures synchronization of resources, and aggressively enables situational awareness and operational security in support of the warfighter. It will facilitate joint communication, collaboration, and knowledge management throughout DoD.

Explicit knowledge is knowledge that has been or can be articulated, codified, and stored in certain media. It can be readily transmitted to others. The most common forms of explicit knowledge are manuals, and documents, or other digital media.

Intellectual capital is a debate over economic "intangibles". It is meant as ambiguous combinations of human capital, instructional capital, and individual capital. Human capital is the talent base of the employees. Intellectual capital also includes structural capital which is the "non-human storehouses of information", as well as, other organizational knowledge and relational capital which is the knowledge embedded in business networks.

Knowledge Management (KM) is a discipline that promotes an integrated approach to identifying, retrieving, evaluating, and sharing an enterprise's tacit and explicit knowledge assets to meet mission objectives. The objective is to connect those who know with those who need to know (know-why, know-what, know-who, and know-how) by leveraging knowledge transfers from one-to-many across the enterprise. (Proposed AR 25-1 revised definition)

National Security Personnel System (NSPS) is a pay for performance pay system created for the United States Department of Defense. It replaces the General Schedule grade and step system with a pay band system intended to provide more flexibility in establishing pay levels.

Noncommissioned Officer Evaluation Reports (NCOERs) strengthen the ability of the NCO Corps to meet professional challenges of the future through indoctrination of Army Values and basic NCO responsibilities. They ensure the selection of the best qualified noncommissioned officers to serve in positions of increasing responsibilities. It provides NCOs with recognition of their performance, values, and personal traits.

Officer Evaluation Reports (OERs) provide information to Department of the Army selection boards and assignment managers for use in making personnel management decisions. It is an assessment tool for rating officials to give shape and direction to the rated officer's performance and potential. It has power to create and reinforce behavior while also providing performance information.

Service-Oriented Architecture (SOA) is an architectural design pattern that concerns itself with defining loosely-coupled relationships between producers and consumers. It is an architecture that relies on service-orientation as its fundamental design principle. In a SOA environment independent services can be accessed without knowledge of their underlying platform implementation (US Army Enterprise Solutions Competency Center publication; www.army.mil/escc).

Structural capital represents the assets that complement the company's human and process capital and enables the creation of value. They are legal rights to ownership along with strategy and culture; structures and systems; and organizational routines and procedures, which are assets that are often far more extensive and valuable than the codified ones. It also includes hardware, software, databases, organizational structure, patents, trademarks... that support employees productivity. Unlike human capital, structural capital can be owned and thereby leveraged or traded.

Tacit knowledge is knowledge that people carry in their minds and is difficult to access and not easily shared. People are often not aware of this knowledge they possess and how valuable it can be to others. It is considered more valuable because it provides context for people, places, ideas, and experiences.

Web portal is a site that functions as a point of access to information on the World Wide Web. It presents information from diverse sources in a unified way. Aside from the search engine standard, web portals offer other services such as news, stock prices, infotainment, and various other features. Portals provide a way for enterprises to provide a consistent look and feel with access control and procedures for multiple applications, which otherwise would have been different entities altogether.

REFERENCES

AR 5-24: Management Improvement and Productivity Enhancement in the Department of the Army

AR 10-87: Army Commands, Army Service Component Commands, and Direct Reporting Units

AR 11-7: Internal Review and Audit Compliance Program

AR 11-33: Army Lessons Learned Program (ALLP)

AR 25-1: Army Knowledge Management and Information Technology Management

AR 25-2: Information Assurance

AR 70-1: Army Acquisition Policy

AR 70-38: Research, Development, Test, and Evaluation of Materiel for Extreme Climatic Conditions

AR 71-9: Materiel Requirements

AR 700-8: Logistics Planning Factors and Data Management