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**Knowledge Management Operations**

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**Headquarters, Department of the Army**

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# Knowledge Management Operations

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**\*This publication supersedes FM 6-01.1, dated 29 August 2008.**

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# Preface

## PURPOSE

This manual provides doctrinal knowledge management (KM) guidance. It provides doctrine for the organization and operations of the KM section, and establishes the doctrinal principles, tactics, techniques, and procedures necessary to effectively integrate KM into the operations of brigades and higher.

## SCOPE

FM 6-01.1 has an introduction, three chapters, and Appendixes A through E. The introduction expands on the manual's purpose and summarizes the doctrine it contains. Chapter 1 explains the nature and role of knowledge management. Chapter 2 discusses the organization and functions of the KM section, including Soldier duties and responsibilities. Chapter 3 discusses the five-step KM process. Appendix A contains checklists for content management. Appendix B contains techniques for adapting after action reviews during training to facilitate learning during operations. Appendix C includes interviewing techniques for collecting observations, insights, and lessons from operations. Appendix D provides a standardized format for the KM Annex to operation plans or orders (OPLAN/OPORD). Appendix E provides an overview of facilitating a professional forum.

## APPLICABILITY

FM 6-01.1 applies to KM activities in Army headquarters from brigade through Army service component command. ("Brigade" includes brigade combat teams, support brigades, functional brigades, and multifunctional brigades.) It applies to the KM section as well as to commanders, staffs, and Army leaders who will have a role in improving KM effectiveness or implementing KM procedures in their organizations.

FM 6-01.1 applies to the Active Army, Army National Guard/Army National Guard of the United States, and U.S. Army Reserve unless otherwise stated.

The Army currently leads the effort to develop doctrine for KM; thus Army headquarters serving as the headquarters of a joint force land component command or joint task force may adapt this field manual with appropriate modifications until joint doctrine or guidance is provided.

## ADMINISTRATIVE INSTRUCTIONS

FM 6-01.1 uses joint terms where applicable. Most terms with joint or Army terms are defined in both the glossary and the text. Glossary references: Terms for which FM 6-01.1 is the proponent publication (the authority) have an asterisk in the glossary. Text references: Definitions for which FM 6-01.1 is the proponent publication are in boldfaced text. These terms and their definitions will be in the next revision of FM 1-02, *Operational Terms and Graphics*. For other definitions in the text, the term is italicized and the number of the proponent publication follows the definition.

Headquarters, U.S. Army Training and Doctrine Command, is the proponent for this publication. The preparing agencies are the Combined Arms Doctrine Directorate and the Army Operational Knowledge Management Proponent, both subordinate to the U.S. Army Combined Arms Center. Send written comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, U.S. Army Combined Arms Center and Fort Leavenworth, ATTN: ATZL-MCK-D, 300 McPherson Avenue, Fort Leavenworth, KS 66027-2337; by e-mail to [usarmy.leavenworth.mccoe.mbx.cadd-org-mailbox@mail.mil](mailto:usarmy.leavenworth.mccoe.mbx.cadd-org-mailbox@mail.mil); or submit an electronic DA Form 2028.

## Introduction

The Army embraced knowledge management (KM) as a discipline in 2003. How the Army manages information and facilitates the movement of knowledge has changed dramatically in recent years. This includes the growth of KM within the Army and refinement of associated technology—both hardware and software. Recognizing that the ability to efficiently manage knowledge is essential to effective mission command, the Army authorized the Army Knowledge Management Qualification Course (AKMQ-C), with additional skill identifier (ASI) to prepare Soldiers for KM's complex challenges. KM sections at brigade through theater army headquarters now work with commanders and staffs to help manage knowledge within their organizations; bridging the art of command and the science of control through KM.

KM can be summarized in the phrase “Know, Show, Grow!” Know = tacit “head knowledge”; Show = knowledge that is written down and documented (explicit knowledge) to be shared with others; Grow = collaboration toward innovation which sparks new knowledge.

What individuals and small elements know that could help others cannot be widely shared without the means to share it. The sheer volume of available information makes it difficult to identify and use that which is relevant. Knowledge management provides the means to efficiently share knowledge, thus enabling shared understanding and learning within organizations. To do this, KM creates, organizes, applies, and transfers knowledge and information between authorized people. It seeks to align people, processes, and tools—to include information technology—within the organization to continuously capture, maintain, and re-use key information and lessons learned to help units learn and adapt and improve mission performance. KM enhances an organization's ability to detect and remove obstacles to knowledge flow, thereby fostering mission success. Because collaboration is the key contributor to KM, it is imperative that everyone be involved in the process, from the generating force that trains and sustains the Soldier to the operating force, which ensures Soldiers survive and thrive every day in every circumstance or location.

The contributions of everyone are important because anyone may be the source of an idea that may become the catalyst for a solution that accomplishes missions and saves lives. Though the focus of this document is operations, KM can be used by organizations and individuals to accomplish many tasks.

This manual and its successors are intended to provide the guidance on how to use KM successfully to benefit Soldiers at the tip of the spear as well as commanders and staff, in present and future operational environments, in an era of persistent conflict.

# Chapter 1

## Nature and Role of Knowledge Management

This chapter begins with a discussion of the foundations of knowledge management. Then it explains the relationships between mission command, knowledge management, and information management. Next, it discusses strategies for supplying knowledge according to an organization's needs. It explains how knowledge management supports learning in organizations. Finally, it discusses knowledge management in relation to Army force generation.

### KNOWLEDGE MANAGEMENT FOUNDATIONS

1-1. Knowledge management (KM) is the process of enabling knowledge flow to enhance shared understanding, learning, and decisionmaking. Knowledge flow refers to the ease of movement of knowledge within and among organizations. Knowledge must flow to be useful. The purpose of knowledge management is to create shared understanding through the alignment of people, processes, and tools within the organizational structure and culture in order to increase collaboration and interaction between leaders and subordinates. This results in better decisions and enables improved flexibility, adaptability, integration, and synchronization to achieve a position of relative advantage. Sound KM practices enhance—

- Collaboration among personnel at different places.
- Rapid knowledge transfer between units and individuals.
- Reach-back capability to Army schools, centers of excellence, and other resources.
- Leader and Soldier agility and adaptability during operations.
- Doctrine development.
- An organization's ability to capture lessons learned throughout each force pool of the Army force generation (ARFORGEN) cycle.
- Effective and efficient use of knowledge in conducting operations, and supporting organizational learning are essential functions of KM.

1-2. KM is more than improved information technology and communications systems. It supports all elements of the operations and decisionmaking processes. Knowledge managers integrate the KM process and its activities into all the processes and information systems of an organization to ensure that knowledge is shared. This integration helps to enable the flow of knowledge that resides in individuals and small elements across the organization so it can be applied to mission or operational requirements, and to support organizational learning, innovation, and performance.

1-3. KM facilitates the transfer of knowledge derived from experiences and skills between the generating force, operating force, staffs, commanders, leaders, and subordinates. (See paragraphs 1-15 and 1-16, "Transferring Knowledge.") Since knowledge transfer occurs between people, KM includes creating techniques and procedures to develop knowledge skills in leaders, build experience, and transfer expertise. Commanders guide and aid the understanding and decisionmaking of the staff and subordinates by sharing their knowledge with them through guidance and conversations.

1-4. Every Soldier must understand and practice KM. It enables the Army and its subordinate commands at every level to be learning organizations. (See paragraphs 1-65 through 1-67, "Knowledge Management and Learning in Organizations.") Commanders are responsible for ensuring effective KM practices are taking place within the unit or organization. Through the KM process, knowledge managers assist commanders and other members of the organization in following sound KM practices and using information management tools that the unit's leadership establishes. They assist the organization in managing the knowledge environment. (Chapter 3 discusses the KM process.)

1-5. Knowledge managers facilitate the use of explicit cognitive techniques, reflective experience, deliberate practice, or socialization within the operational environment to analyze information. Analysis and evaluation provide context for meaning or implications that form the basis for understanding. Creating mission-specific knowledge by integrating contextualized information supports effective decisionmaking, providing the basis for action.

1-6. Effective KM provides commanders, leaders, and Soldiers relevant information and knowledge, providing the link between the tacit and explicit knowledge found in an organization and the decisions a commander makes on the battlefield. (See paragraphs 1-9 and 1-10, “Types of Knowledge” for explanations of “tacit” and “explicit” knowledge.) KM provides relevant information as the commander transitions through understanding and visualizing the end state and operational approach, through the decisionmaking process, and ultimately to action. It provides critical insight for assessment, enhancing rapid adaptation during dynamic operations. While not all knowledge provides an operational advantage, an operational advantage can only be achieved through the effective and timely transfer of knowledge to commanders and other decisionmakers.

1-7. Commander’s critical information requirements focus knowledge product development. Leaders acquire knowledge by understanding the processes, activities, and systems available to share information. Commanders and staffs evaluate KM effectiveness by determining whether it reduces the fog of war. KM narrows the gap between relevant information commanders require and that which they have. The staff organizes knowledge for the commander through KM.

## KNOWLEDGE

1-8. **Knowledge is information that has been analyzed to provide meaning or value or evaluated as to implications for the operation.** It is also comprehension gained through study, experience, practice, and human interaction that provides the basis for expertise and skilled judgment. Knowledge results from analysis of information and data. Individuals gain knowledge when they place information in context based on what they already know, available factual information, and their judgment and experience. This leads to understanding. Knowledge occurs when the proverbial light bulb goes on in a person’s mind and he or she says: “I got it” or “now I understand.”

## TYPES OF KNOWLEDGE

1-9. Tacit knowledge resides in an individual’s mind. It is the domain of individuals, not technology. All individuals have a unique, personal store of knowledge gained from life experiences, training, and formal and informal networks of friends and professional acquaintances. It includes learned nuances, subtleties, and work-arounds. Intuition, mental agility, effective responses to crises, and the ability to adapt are also forms of tacit knowledge. Leaders use tacit knowledge to solve complex problems and make decisions. They also routinely engage subordinates’ tacit knowledge to improve organizational learning and enhance unit innovation and performance.

1-10. Explicit knowledge consists of written or otherwise documented information that can be organized, applied and transferred using digital (such as computer files) or non-digital (such as paper) means. Explicit knowledge lends itself to rules, limits, and precise meanings. Examples of explicit knowledge include dictionaries, official department publications (field manuals, technical manuals, tactics, techniques, and procedures manuals, Department of the Army pamphlets) and memorandums. Explicit knowledge is primarily used to support situational awareness and shared understanding as it applies to decisionmaking.

## CREATING, ORGANIZING, APPLYING, AND TRANSFERRING KNOWLEDGE

1-11. Knowledge management seeks to enhance shared understanding and decisionmaking by creating knowledge, organizing knowledge, applying knowledge, and transferring knowledge. These are also the four task areas for the content management function of the KM section; each of which fall under one or more steps of the KM process. (Appendix A discusses content management. Chapter 3 discusses the KM process.)

### Creating Knowledge

1-12. *Knowledge creation* is the process of developing new knowledge or combining, restructuring, or repurposing existing knowledge in response to identified knowledge gaps. Knowledge comes from a variety of sources, such as new technology, answering the commander's critical information requirements, or the sharing of information that others need to know. Knowledge is also created when organizations learn, which in turn enables organizations to adapt. (See paragraphs 1-65 through 1-67, "Knowledge Management and Learning in Organizations.")

### Organizing Knowledge

1-13. Organizing knowledge includes archiving, labeling, and identifying. These are specific tasks of content managers under the implement step of the KM process. Organizing knowledge ensures that users can discover and retrieve knowledge that is relevant, and knowledge managers can track knowledge products throughout their life cycle. (Appendix A describes archiving, labeling, and identifying. See Chapter 3 for information about the KM process.)

### Applying Knowledge

1-14. Applying knowledge refers to making knowledge accessible to those who need to use it. It seeks to create conditions so users can retrieve and apply the knowledge they need. This is the primary purpose of content management, and occurs during the implement step of the KM process. A key aspect is ensuring that multiple users can easily retrieve knowledge products, which enables collaboration in applying knowledge.

### Transferring Knowledge

1-15. *Knowledge transfer* is the movement of knowledge—including knowledge based on expertise or skilled judgment—from one person to another. It describes how knowledge is passed between individuals and groups. It includes knowledge developed within the unit and received from other sources. Effective knowledge transfer allows all involved to build on each other's knowledge in ways that strengthen not only individual Soldiers but also the entire organization. It is more than simply moving or transferring files and data. Since knowledge transfer occurs between people, KM includes creating techniques and procedures to develop knowledge skills in leaders, build experience, and transfer expertise.

1-16. Employing effective knowledge strategies increases knowledge transfer and learning. (See paragraphs 1-60 through 1-64 which discuss knowledge strategies.) Knowledge transfer enables units and Soldiers to begin operations at a higher knowledge level, raising knowledge and learning levels throughout an operation.

## KNOWLEDGE MANAGEMENT COMPONENTS

1-17. The staff conducts knowledge management as part of the science of control. KM comprises four major components:

- People.
- Processes.
- Tools.
- Organization.

### People

1-18. Of the four components, people are the most vital for successful KM. They include those inside and outside the organization that create, organize, apply, and transfer knowledge; and the leaders who act on that knowledge. Knowledge only has meaning in a human context. It moves between and benefits people, not machines. People include the commander and staff; higher, lower, and adjacent commanders and staffs; other Army leaders, and other agencies that might contribute to answering information requirements.

1-19. Military staffs developed as institutions devoted to creating and managing knowledge. Staffs develop and provide knowledge on which commanders and other decisionmakers achieve situational awareness and shared understanding, make decisions, and execute those decisions. Staffs are involved both in directing actions and assessing progress. The structure of personnel, units, and activities creates explicit communication channels for knowledge transfer within and between organizations.

1-20. An estimated 80 to 90 percent of all knowledge exists as individuals' experience, expertise, or insights. This tacit knowledge is transferred primarily through conversations and immediate feedback based on direct observations of an activity. Therefore, knowledge transfer techniques focus on connecting people and building social networks. The after action review process is one technique for transferring tacit knowledge. (See appendix B.) Another is the simulation-based decision games used with senior commanders. These games help subordinates understand both how the commander thinks and why.

### **Processes**

1-21. The five-step KM process and its activities are integrated into the numerous staff and organizational processes used in the preparation and conduct of operations. This integration enables the transfer of knowledge between and among individuals and organizations. Soldiers, groups, teams, and units employ them. Knowledge exchange occurs both formally—through established processes and procedures—and informally—through collaboration and dialogue. The KM process also seeks to ensure that knowledge products and services are relevant, accurate, timely, and usable to commanders and decisionmakers. (Chapter 3 describes the KM process.)

1-22. The steps of the KM process and their associated activities are not ends in themselves. The KM section uses them to improve KM within the organization before operations, throughout the operations process, and after operations. It also synchronizes them with the unit's battle rhythm.

### **Tools**

1-23. KM tools include information systems and various software tools used to put knowledge products and services into organized frameworks. KM tools are anything that is used to share and preserve information. The mission determines the tool. Not all tools are technology, but just a few from the technology arena include:

- Information systems: Information systems and their software, storage, inputs, processing, outputs, formats, content, software, and capabilities provide tools knowledge managers employ to manage knowledge. KM helps guide the use of information systems to fuse information to support a more effective common operational picture.
- Collaboration tools: These tools are information systems that include online capabilities that make team development and collaboration possible. Examples include chat, white-boarding, professional forums, communities of interest, communities of practice, and virtual teaming. (See chapter 3.)
- Expertise-location tools: These tools support finding subject matter experts.
- Data-analysis tools: These tools support data synthesis that identifies patterns and establishes relationships among data elements.
- Search-and-discover tools: These tools include search engines that look for topics, recommend similar topics or authors, and show relationships to other topics.
- Expertise-development tools: These tools use simulations and experiential learning to support developing experience, expertise, and judgment.

1-24. An important KM tool is the *common operational picture*—a single display of relevant information within a commander's area of interest tailored to the user's requirements and based on common data and information shared by more than one command (ADP 6-0). Much of the KM effort is devoted to ensuring the accuracy of the data and information the common operational picture draws on, the processes that produce it, and the information systems that display and disseminate it. (See ADP 6-0 for additional information on the common operational picture.)

1-25. Another important KM tool is the *Global Information Grid*—the globally interconnected, end-to-end set of information capabilities, associated processes for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel. The Global Information Grid includes owned and leased communications and computing systems and services, software (including applications), data, security services, other associated services, and National Security Systems (JP 6-0). LandWarNet is the Army’s portion of the Global Information Grid.

## **Organization**

1-26. An organization is the matrix in which people-processes-tools function to integrate individual learning, and organizational learning strategies. KM capabilities contribute to a learning organization. People are a summation of their inherited ideas, beliefs, values, and knowledge. Organizations such as staff, squads, and larger groups bring these attitudes, feelings, values, and behaviors together, creating a system of processes facilitated by tools that will characterize that group. Collectively, these factors are its organizational culture. KM practitioners must consider this dynamic when advising and assisting organizations regarding KM solutions.

1-27. An awareness of shared traditions, opinions, beliefs, and convictions is critical in not only extracting tacit knowledge without offending the source, but to put the collected knowledge into context. This awareness may lead to identifying other interconnections that may further provide clarifications or put the knowledge acquired into perspective, allowing for appropriate interpretation and analysis.

1-28. Knowing and understanding the culture of any organization will provide the perspective by which information, goals and motivations can be viewed, allowing rapport, facilitation of knowledge sharing, and accurate interpretation for further understanding and acquiring a broad view of a situation.

## **KNOWLEDGE MANAGEMENT PRINCIPLES**

1-29. The following principles represent the most important factors affecting the conduct of effective KM. The principles of KM are the overarching, fundamental truths of functional effectiveness that are applicable at all levels to all organizations and are enduring, scalable, and equally applicable to an individual, team, organization or community under all circumstances. They are not a checklist. Rather, they summarize the characteristics of successful KM efforts. Knowledge managers consider them in all situations; however, the principles apply differently, based on the factors present.

### **Understand**

1-30. Through collaboration and dialogue, knowledge sharing enables an understanding of the operational environment, problems to be solved, and approaches to solving them. Shared understanding across, between, and through commanders, subordinate leaders, Soldiers, and organizations underpins mission command and the operations process (or the conduct of operations). Understanding is closely related to social and human organization functions and constraints. Informal dialogue, sharing perspectives, issues, concerns, and abilities not only leads to shared understanding but helps build trust and forms the basis for unity of effort. Through collaboration and dialogue, knowledge sharing enables an understanding of the operational environment, problems to be solved, and approaches to solving them. Effective KM practices enable commanders, subordinate leaders, Soldiers, and organizations to work together to achieve operational goals. KM facilitates the transfer of the “how” in the form of knowledge (tacit and explicit). Understanding is primarily an individual process; therefore its domain is the tacit knowledge that resides in individuals.

### **Share**

1-31. Knowledge shared is power. Knowledge is a transferable asset which tends to grow with use and application. A strategy of linking the sources of tacit knowledge and encouraging interaction at all levels (individual to enterprise) helps the Army to acquire and share knowledge in support of the operational objectives. The four components of knowledge management (people-processes-tools-organization) are interdependent, nested, and permeable. Getting the knowledge to those who need it, when they need it, is a critical component of knowledge transfer. Technology enables social interaction by providing access to

people, storage, and online connections; but technology is not a requirement for knowledge transfer to occur. Learning, teaching, coaching, and mentoring occur just as easily, and often more effectively, in face-to-face exchanges. The ability, engineered into the system of networks, for users at various levels to access the knowledge of others is an essential precondition to transfer. The concept of hoarding knowledge to make oneself indispensable benefits no one. Knowledge is of value only when it is available to use to improve organizational effectiveness, operational processes, and decisionmaking.

### **Integrate**

1-32. Army forces do not operate independently, but as a part of a larger joint, interagency, and frequently multinational effort. Effective integration requires creating shared understanding and purpose through collaboration with all unified action partners. KM transcends hierarchy and boundaries by integrating the people and processes, enabled by KM tools, to create, organize, apply, and transfer knowledge. By enabling knowledge integration and improving collaboration, KM breaks down stovepipes and enhances shared understanding. KM employs standard practices focused on organizational effectiveness and improved decisionmaking. KM functions simultaneously on multiple planes of space, time and social organization; the interactions across and between organizations enhance organizational effectiveness.

### **Connect**

1-33. Connecting people with knowledge to others who need that knowledge is required for that knowledge to be shared. Knowledge creation depends on the transfer of that knowledge from those with experience, expertise, or insights. This requires connecting people and knowledge with others. KM focuses on transferring tacit knowledge between individuals, teams, and units through collaboration. It makes stored explicit knowledge more easily and readily available to more people and organizations. It contributes to integrating lessons learned during operations by organizations in all ARFORGEN phases.

### **Learning**

1-34. Leader, Soldier, and organizational learning underpin adaptability-the ability to shape conditions and respond effectively to a changing operational environment with appropriate, flexible, and timely actions. By connecting leaders, subordinates, and organizations, and by facilitating the sharing and integration of information and knowledge, KM enables learning. KM fosters individual and collective learning and contributes to developing learning organizations by integrating informal learning, organizational learning strategies, and KM capabilities. Much learning comes from individuals' initiative in self-development and study. Thus, fostering learning begins with promoting initiative and innovation. It also involves required knowledge transfer during interaction and collaboration. Fostering learning produces organizations and Soldiers able to adapt faster than enemies and adversaries.

### **Trust**

1-35. One of the principles of mission command is building cohesive teams through mutual trust. Trust not only provides the foundation for building cohesive teams, it is the glue that holds them together. KM fosters a willingness to share knowledge while providing effective ways to do so, for the benefit of the organization. The positive results of sharing knowledge enhances trust and improves shared understanding; encouraging Soldiers to exercise disciplined initiative and accept prudent risk to seize opportunities within the commander's intent.

## **KNOWLEDGE MANAGEMENT CORE COMPETENCIES**

1-36. KM competencies are the outcome of the principles in application through discrete attributes within an organization. They are the necessary knowledge, skills, abilities, relationships, experiences, and habits associated with effectiveness in a role within an organization. These enable enhanced understanding and visualization for commanders, thus making them more effective in performing commander's tasks of describing and directing. They also enable the development of shared understanding and improved learning for Soldiers. Together, these result in improved flexibility, adaptability, integration, and synchronization.

1-37. The knowledge management core competencies are knowledge flow and capture, collaboration, and standardization.

- Knowledge capture converts what individuals know into knowledge that can be codified and shared. Knowledge flow is the ease of movement of knowledge within and among organizations. Together, knowledge capture and flow prevent the knowledge loss associated with mission or environmental complexity, volume of information, high operations tempo (OPTEMPO), and personnel turbulence.
- Collaboration occurs when personnel, teams, and organizations work together to produce or create something. Collaboration leverages each participant's unique knowledge to spark insight, create discussion and dialogue, and foster shared understanding.
- Standardization refers to building and implementing a common framework of tools, techniques, practices, and processes in an Army organization in order to collect, codify, and share captured knowledge and best practices derived from flow and capture and collaboration.

## MISSION COMMAND, KNOWLEDGE MANAGEMENT, AND INFORMATION MANAGEMENT

1-38. Mission command, knowledge management, and information management are closely related. Information management feeds the development and management of knowledge. Knowledge management relies on information management and contributes to the situational awareness and shared understanding required for decisions and actions involved in exercising mission command.

### MISSION COMMAND

1-39. *Mission command* philosophy is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations (ADP 3-0). Through mission command, commanders initiate all actions and integrate all military functions toward the common goal of mission accomplishment. As the Army's philosophy of command, mission command emphasizes that command is essentially a human endeavor.

1-40. The fundamental principles of mission command are—

- Build cohesive teams through mutual trust.
- Create shared understanding.
- Provide a clear commander's intent.
- Exercise disciplined initiative.
- Use mission orders.
- Accept prudent risk.

1-41. The mission command warfighting function assists commanders in blending the art of command with the science of control, while emphasizing the human aspects of mission command. It integrates the other warfighting functions into a coherent whole. The mission command warfighting function consists of the mission command tasks and the mission command system.

1-42. Commanders exercise the mission command warfighting function through the commander tasks:

- Drive the operations process through the activities of understanding, visualizing, describing, directing, leading, and assessing operations.
- Develop teams, both within their own organizations and with unified action partners.
- Inform and influence, both inside and outside their organizations.
- Determine the appropriate degree of control for decisionmaking and execution.

1-43. The staff, a key component of the mission command system, supports the commander in the exercise of mission command by executing the staff tasks:

- Conduct the operations process: plan, prepare, execute, and assess.
- Conduct information management and knowledge management.

- Conduct, inform, and influence activities.
- Conduct cyber electromagnetic activities.

1-44. At every echelon of command, each commander has a *mission command system*, the arrangement of personnel, networks, information systems, processes and procedures, and facilities and equipment that enable commanders to conduct operations. Commanders organize a mission command system to—

- Support the commander’s decisionmaking.
- Collect, create, and maintain relevant information and prepare knowledge products to support the commander’s and leaders’ understanding and visualization.
- Prepare and communicate directives.
- Establish the means by which commanders and leaders communicate, collaborate, and facilitate the functioning of teams.

1-45. To provide these four overlapping functions, commanders arrange the five components of their mission command system:

- Personnel.
- Networks.
- Information systems.
- Processes and procedures.
- Facilities and equipment.

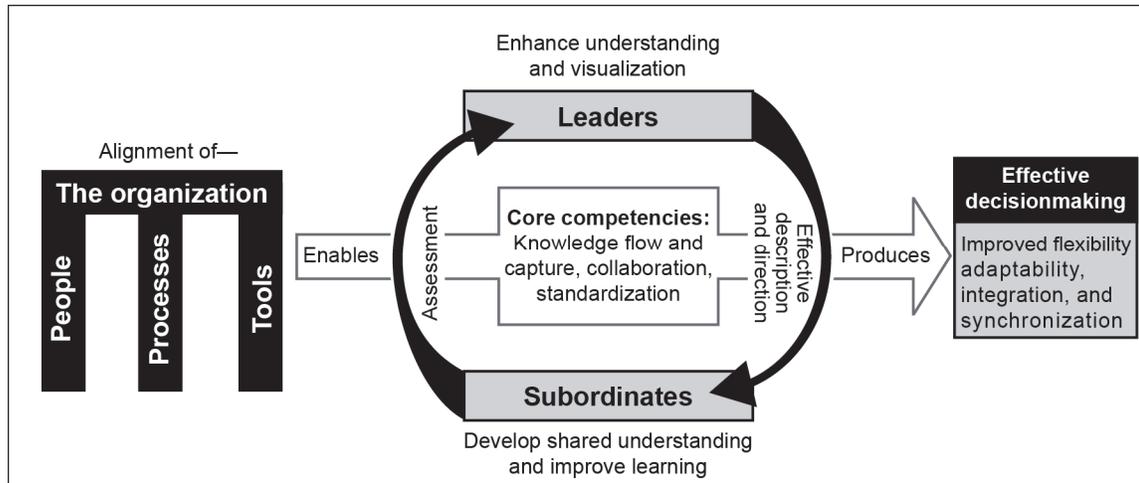
## KNOWLEDGE MANAGEMENT SUPPORT TO MISSION COMMAND

1-46. “Conduct information management and knowledge management” is one of several mission command staff tasks, as shown in paragraph 1-43. Conducting KM helps to create shared understanding, a mission command principle. As a staff task under the science of control, conducting KM is key to integrating the operations process.

1-47. KM underpins mission command. Mission command establishes a mindset among leaders that the best understanding comes from the bottom up, not from the top down. The foundation of this bottom-up understanding is the tacit knowledge that individuals develop through daily experience of operating within their specific environment and circumstances. They may share this knowledge and understanding with other members of their unit. However, this knowledge is of limited utility if it remains only within the small unit. KM aligns people, processes, and tools within the organizational structure and culture to distribute this knowledge and understanding across the force. Effective KM makes that tacit knowledge, as well as explicit knowledge from a wide range of sources, available to those who need it, when they need it, so they can operate more effectively.

1-48. KM helps commanders drive the operations process through enhanced understanding and visualization. Understanding the operational and mission variables as well as the context—the unique array of surrounding circumstance that influences and helps clarify the meaning of an event or situation—enables commanders to envision a set of desired future conditions that represent the operation’s end state. Based on this understanding of the current situation, the mission, and the desired end state, commanders conceptualize an operational approach to attain the end state. Commanders describe their visualization of the operation to their staffs and subordinates to facilitate shared understanding of the operational environment, the problem to be solved, the mission, and the commander’s intent. This shared understanding and purpose—essential to mission command—helps subordinates understand the intent and act within it. Figure 1-1 on page 1-9 illustrates how knowledge management enhances decisionmaking and supports mission command.

1-49. KM helps Soldiers and organizations continuously learn and adapt as they operate. Across the force, the increased collaboration and interaction between commanders and Soldiers results in improved flexibility, adaptability, integration of the warfighting functions as well as efforts of all unified action partners and synchronization of operations which are Army tenets defined in ADP 3-0, *Unified Land Operations*.



**Figure 1-1. How knowledge management enhances decisionmaking**

1-50. Effective incorporation of KM into the operations process requires developing and managing a KM architecture and plan. In coordination with the staff, KM includes building competence in using information systems. Finally, KM facilitates mission command by using models and simulations to improve individual, team, and organizational performance. This training can occur during current operations or to prepare for future operations. The insights gained from these experiences (tacit knowledge) make valuable contributions to organizational learning.

1-51. Tacit knowledge provides part of the foundation for intuition; therefore, it is a component of the knowledge commanders use to exercise mission command. Tacit knowledge allows commanders to combine explicit knowledge of the operational and mission variables to visualize an operation or battle. The commander's intent, commander's critical information requirements, and planning guidance are all forms of explicit knowledge. Commanders create them by combining their tacit knowledge with the explicit knowledge provided by staffs.

1-52. The knowledge commanders use to achieve situational awareness and shared understanding, make decisions, and act begins as data. Machines and people process data into information. People using their minds and various tools add meaning to information to produce knowledge. Data, information, and knowledge are closely related. However, each is different from the others and makes a distinct contribution to developing understanding.

1-53. *Data* consist of unprocessed signals communicated between any nodes in an information system, or sensing from the environment detected by a collector of any kind (human, mechanical, or electronic) (ADP 6-0). Data can be quantified, stored, and organized in files and databases; however, data only becomes useful when processed into information.

1-54. In this context, *information* is the meaning that a human assigns to data by means of the known conventions used in their representation (JP 3-13.1). Processing places data within a context that gives it meaning and value. Like data, information can be quantified, stored, and organized; however, information alone rarely provides a sound basis for deciding and acting. Good decisions and effective actions require knowledge.

1-55. People using their minds and various tools add meaning to information to produce knowledge. Knowledge is meaningfully structured and based on experience. Some is usable as the basis for achieving understanding and making decisions. Other knowledge forms the background against which commanders make those decisions. Table 1-1 on page 1-10 shows a simple example of data becoming knowledge and developing into understanding. The hierarchy shown in figure 1-2 on page 1-11 portrays the place of data, information, and knowledge in developing shared understanding, with insight and experience leading to wise decisionmaking. Figure 1-2 on page 1-11 also shows the roles of both knowledge and information management in this development.

1-56. Understanding is knowledge that has been synthesized and had judgment applied to it to comprehend the situation's inner relationships. Judgment is based on experience, expertise, and intuition. Ideally, true understanding should be the basis for decisions. However, commanders and staffs realize that uncertainty and time preclude achieving perfect understanding before deciding and acting.

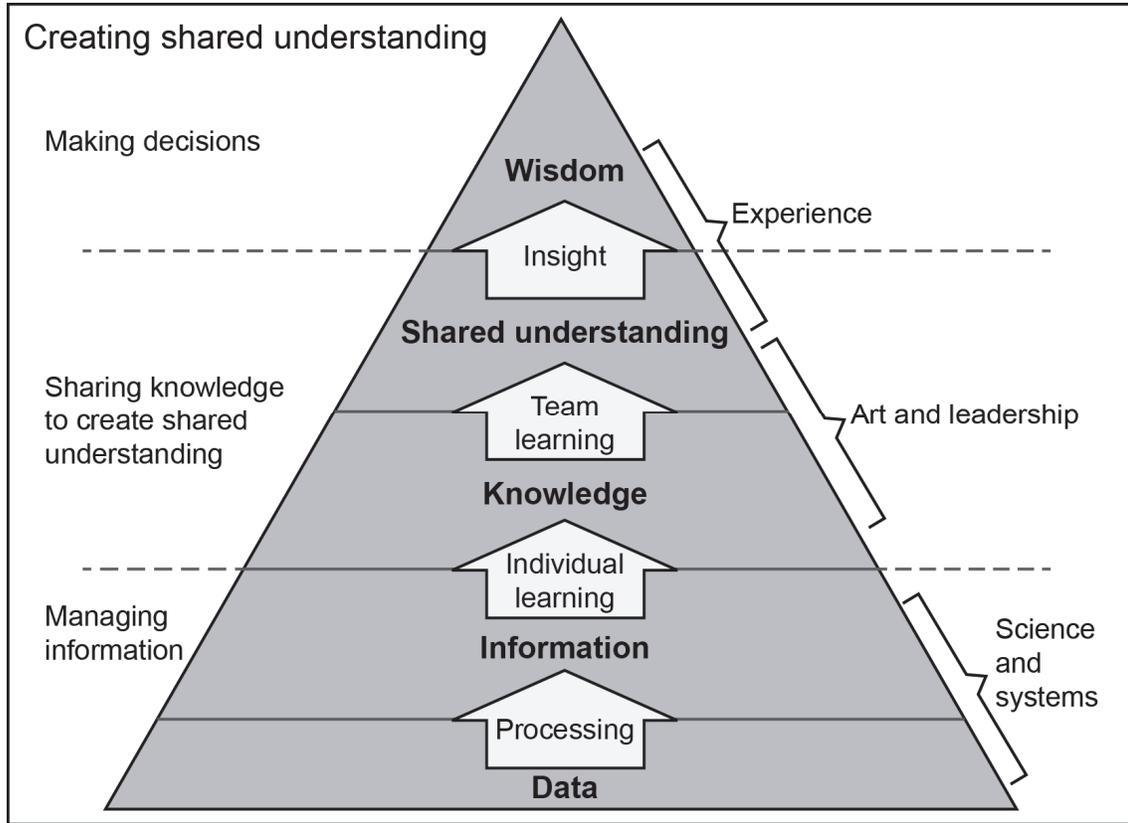
**Table 1-1. Example of data processed into information and knowledge**

<i>Term</i>	<i>Example</i>	<i>Relationship</i>
Data	100 T72 tanks	Unrelated symbols out of context
Information	100 T72 tanks at grid location AB271683	Processing places the symbols in the context of the terrain and friendly forces
Knowledge	100 T72 tanks at grid location AB271683 indicates the enemy has committed its reserve	Cognition based on experience, analysis, or study provides meaning to the information
Understanding	<p>Understanding of key variables of PMESII-PT and METT-TC and other factors indicates—</p> <p>Decisive point 12 along most likely avenue for enemy armor; will reach decisive point 12 in (x) time.</p> <p>Enemy doctrine for combined arms operational reserve indicates all elements not yet located.</p> <p>Enemy is vulnerable to counterattack.</p> <p>Suitable locations to engage enemy forces.</p> <p>Joint air support and multinational forces support required.</p>	<p>Commander applies analysis and judgment to relevant information to determine the relationships among operational and mission variables. Based on understanding, commander makes decisions leading to action:</p> <p>Execute branch plan; adjust as needed.</p> <p>Collection assets focus on revised commander's critical information requirements.</p> <p>Army aviation engages at decisive point 12.</p> <p>Resources re-allocated to support decisive operation.</p> <p>Air forces prepare to provide close air support.</p> <p>Multinational ground forces prepare to support.</p>

## INFORMATION MANAGEMENT

1-57. *Information management* is the science of using procedures and information systems to collect, process, store, display, disseminate, and protect data, information, and knowledge products (ADP 6-0). While KM is an art—concerned more about the *why* of knowledge transfer, information management is a science—focused on the *how*. It employs both staff management and processes to make information available to the right person at the right time. Information management provides a structure so commanders and staffs can process and communicate relevant information and make decisions. Effective information management contributes to knowledge creation and shared understanding by all unit members. In some ways, knowledge management and information management are inseparable; the two overlap.

1-58. Information management complements knowledge management and knowledge development. (See figure 1-2) Generally, information management relates to collection, processing, display, storage, dissemination, and protection of data and information before it becomes knowledge. In contrast, KM uses information to create, organize, apply, and transfer knowledge to support achieving understanding, making decisions, and ultimately taking effective action.



**Figure 1-2. Creating shared understanding**

1-59. Information management provides the timely and protected dissemination of relevant information to commanders and staff elements. It supports knowledge management. Relevant information is all information of importance to commanders and staffs in the exercise of mission command. Information management includes lower level mechanical procedures, such as organizing, collating, plotting, and arranging. Information management is more than control of data flowing across information systems networks. It uses both staff management and automatic processes to sort, organize, and disseminate vast quantities of information, getting relevant information to the right person at the right time. Information management centers on commanders and their information requirements. The signal staff officer coordinates information management as part of the knowledge strategy throughout all operations process activities.

## KNOWLEDGE STRATEGIES

1-60. A knowledge strategy provides an approach to facilitate the capture, creation, and transfer of knowledge. Knowledge strategies range along a continuum, from technical approaches for retrieving mostly explicit knowledge—to human-oriented, social network-based approaches better adapted to capturing tacit knowledge and creating knowledge. A knowledge strategy gives priority to one over the other based on the situation.

1-61. On one end of the continuum (illustrated in figure 1-3 on page 1-12) is a knowledge strategy that focuses on connecting people with content through technical networks, developing added value that supports organizing, applying, and transferring knowledge. This strategy makes content better organized and more portable, explicit, and understandable and is more appropriate when—

- Mature knowledge products, such as doctrinal manuals, exist.
- Requirements for similar knowledge recur. Standing operating procedures and similar products address these situations.

- The explicit knowledge required for different projects falls into similar categories. Formats, such as the operation order format, address these situations.
- Standardized products or services, such as weapons effects data, are required.
- The explicit knowledge required is easily codified, as with weapons systems capabilities.

1-62. On the other end of the continuum is the knowledge strategy focused on developing social networks (informal, teams, and communities) to link people with tacit and explicit knowledge. This strategy shares tacit knowledge through managed conversation and is appropriate when situations—

- Require innovation, such as adapting to changes in enemy tactics.
- Include unfamiliar problems that do not have a clear solution at the outset.
- Require knowledge that applies across different types of problems, such as cultural awareness.
- Require highly customized knowledge to meet particular needs, such as coordinating activities between rival tribes in an austere area of operations.
- Require knowledge not easily codified, such as expertise and experience for an operation or task.

1-63. Knowledge strategies developed for specific situations will recommend some combination of technical networks or social networks to connect people to content. The organization’s needs, the circumstances of the operational environment, and the operational goals will determine the mix of the two knowledge strategies to use. Each project or communication emphasizes either a technical network or social network solution codification or personalization, based on the situation. Neither knowledge strategy is used exclusively.

1-64. Because tacit knowledge is difficult to share across the organization, in units with high turnover it is important to convert key knowledge and experience from tacit to explicit knowledge. This helps pass institutional knowledge to both new and remaining personnel.

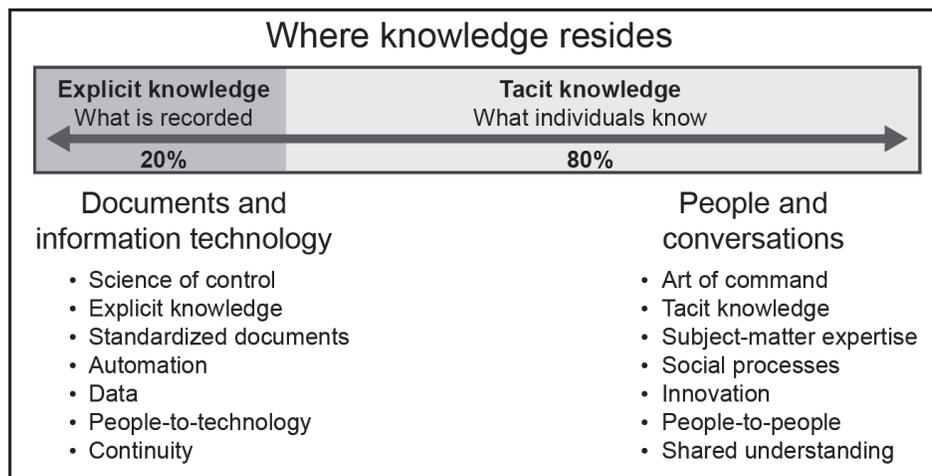


Figure 1-3. Continuum of knowledge strategies

## KNOWLEDGE MANAGEMENT AND LEARNING IN ORGANIZATIONS

1-65. KM creates viable sources that feed logical and critical thought patterns to best develop learning organizations. Integrating KM improves sharing of observations, insights, and lessons before, during, and after operations. KM integrates those lessons for organizational improvement and includes reach-back to obtain additional expertise. The KM process recommends ways to organize lessons that have been incorporated into modified tactics, techniques, or procedures and disseminate them within the unit. These lessons can then be transferred to official lessons learned databases for others’ use. KM tools help leaders to research doctrine more effectively for tactics, techniques, and procedures to help solve tactical problems. KM also connects operational units with subject matter experts and peers with relevant experience to obtain their assistance, both before and during an operation. It also includes access to the vast lessons learned

databases at the Center for Army Lessons Learned and other sources of lessons learned and knowledge products, such as Army professional forums. It expedites incorporation of this knowledge into plans and orders and contributes to accomplishing missions. Finally, KM allows units to contribute their learning and lessons to these repositories, thus increasing the Army's institutional knowledge.

1-66. KM exploits LandWarNet's links between the operating force and the generating force, especially those to centers of excellence and schools, to facilitate learning in all Army organizations. (FM 6-02.71 describes LandWarNet.) KM enables commanders to utilize operational lessons learned immediately into collective training to better prepare units in ARFORGEN pools. Collaborative tools enable team development, planning, and operations. Sharing tacit knowledge through KM captures decisionmaking experience from seasoned operators and trainers.

1-67. KM facilitates the transformation of Army forces into knowledge-based organizations. Those organizations integrate best practices, the most effective and efficient method of achieving any objective or task, into operations and training. Within organizations, KM improves knowledge flow, connecting those who need knowledge with subject matter experts. Soldiers and leaders share lessons learned to prepare for both current and future operations.

## KNOWLEDGE MANAGEMENT IN ARMY FORCE GENERATION

1-68. ARFORGEN is the structured progression of unit readiness over time to produce trained, ready, and cohesive units prepared for operational deployment in support of the combatant commander and other Army requirements. ARFORGEN is the Army's core process for force generation, executed with supporting-to-supported relationships, that cycles units through three force pools: reset, train/ready, and available.

1-69. Units enter the reset force pool on a unit's return date or the transition from the available force pool. Units conduct individual and institutional training focused on their core or theater-specific mission-essential task list. Units move to the train/ready force pool when they are prepared to conduct higher level training and prepare for deployment. Training and preparation in the train/ready force pool focuses on collective training and mission rehearsal exercises. Units in the available force pool are at the highest state of training and readiness capability and the first to be considered for sourcing operational requirements. Leaders must take the time during planning for redeployment to ensure the knowledge obtained during the deployment cycle is captured and available for later use. At the end of the available force pool, units return to the reset force pool, and the cycle begins again.

1-70. KM in ARFORGEN focuses on knowledge transfer to forces throughout all ARFORGEN force pools. KM plays a vital role in enabling units to achieve this connection throughout all ARFORGEN force pools. Commanders use KM processes and information systems to access training resources to increase mission proficiency and improve Soldiers' cultural awareness. These resources can provide a continuous shared knowledge network between the generating force and the operational Army. (Chapter 3 provides information on knowledge networks.) The Center for Army Lessons Learned (CALL) knowledge networks support this connection by enabling unit interactions.

### RESET

1-71. KM preparation begins during the reset force pool. Because the reset force pool is usually preceded by redeployment and its multiple requirements, knowledge managers must ensure systems are in place for knowledge capture and retention, anticipating a period of high turnover. Unit redeployment and reset training plans must address organizational level KM requirements. KM personnel assist units to ensure they understand the KM processes they will use. Army leaders at all levels must address the processes of capturing, organizing, documenting, and archiving knowledge through various means including after action reviews (AARs), tactics, techniques, and procedures (TTPs), standard operating procedures (SOPs), lessons learned, and historical records. This spectrum of knowledge ranges from explicit knowledge stored on servers and deployed networks to the tacit knowledge of unit leaders. The reset force pool is an excellent opportunity for units to take advantage of new equipment training for systems that foster improved KM.

1-72. The KM section at each level serves as the coordinating element and provides primary trainers. The Army operational knowledge proponent can provide additional support for KM training. The unit will

transition process, systems, and portals throughout the ARFORGEN, keep this in mind and build components that are, if possible, portable. Some specific tasks that are performed during the reset force pool are—

- Transition to garrison portal.
- Develop or refine knowledge strategies.
- Capture observations, insights, and lessons and disseminate to other KM sections as lessons learned via collaboration or team centers.
- Incorporate observations into the SOP.
- Train incoming KM staff section personnel on KM techniques.
- Develop or refine tactical and administrative collaboration portals and knowledge center templates and designs.
- Review and refine content management plan and procedures.
- Conduct knowledge assessments.
- Review and validate SOPs and policies.

1-73. Establishing procedures early in the ARFORGEN cycle will allow for a smoother transition from one force pool to the next. Unit members that are trained in the KM processes, such as portal procedures and layout, content management, naming conventions, use of shared calendars, and other KM activities can focus on obtaining the tacit knowledge of members of the unit they are relieving instead of expending extra time and energy on obtaining and or delivering explicit knowledge.

## **TRAIN/READY**

1-74. The focus of units in the train/ready force pool is mission preparation and collective training for anticipated future missions. As operational tempo increases, units should continue KM training with increasing emphasis on integration of KM throughout the unit's operational processes. Areas of KM emphasis during the ready phase include—

- Establishment of the KM team.
- Training and operation.
- Mission rehearsal exercises or combat training center.

1-75. Establishing the KM team must include its assignment, development, and integration into the command and staff structure. The KM team consists of the KM section and its supporting partners (See Chapter 2), although everyone in the organization plays a role in KM. A key is early identification of KM personnel so they can receive necessary training.

1-76. Based on the organization's mission, the KM team applies KM methods to operational and mission activities. These may include revising plans and SOPs; acquiring, applying, and possibly tailoring technology to support organizational processes; developing an integrated and supportive KM battle rhythm; educating and training Soldiers in the use of KM systems; and highlighting the benefits of collaboration and collective learning through communities of purpose or practice.

1-77. The KM section advises the chief of staff on KM training. Although each staff element has a leader responsible for training, the chief of staff ensures that staff elements interact properly. With chief of staff oversight, units practice digital staff battle drills and use knowledge transfer techniques to prepare for deployment. Units use information systems and knowledge networks to transfer observations, insights, lessons, and organizational knowledge.

1-78. Lessons learned integration is a major capability facilitated by the KM section. The KM section, in coordination with the signal staff section, can help integrate observations, insights, and lessons by helping the unit connect with deployed units using the mission command system and other collaborative means. In doing so, follow-on forces may observe battle update assessment briefs, review combat action reports, identify observations, insights, and lessons, and integrate them into training. This integration aims to decrease transition time in the area of operations while increasing shared understanding. The culminating training activity during the ready phase is usually a combat training center rotation or a mission rehearsal exercise. Prior to participating in either of these events, the KM section must have defined processes and

tools in place, such as a portal, a well thought-out battle rhythm, and trained personnel to support the unit's KM requirements. During these major collective training events the KM section must capture and recognize those tools and processes that work and those that must be modified. The KM section is able to validate its SOPs, link KM activities with the battle rhythm, and fully exercise the KM working group.

1-79. The KM section supports the collection, storage, and access of AAR products during these events. This allows for the incorporation of lessons learned and best practices into refined SOPs and policies prior to deployment.

## **AVAILABLE**

1-80. Units in the available force pool are available for worldwide deployment. During available force pool units maintain their readiness by continuing to incorporate relevant and current knowledge from the field. The KM section continues to provide value in several areas:

- Virtual right-seat ride and virtual meeting and collaboration.
- Reach-back and integration.
- Knowledge capture and content management.
- Family readiness and social media.

## **Virtual Right-Seat Ride and Virtual Meeting and Collaboration**

1-81. Learning before doing and use of virtual and collaboration technology can greatly assist units both before and after the pre-deployment site survey visit. The ability to access current plans and operations via the deployed unit's operational portal, or conducting virtual meetings and virtual right-seat rides with counterparts, becomes increasingly important as deployment draws closer. The transfer and sharing of lessons learned, best practices, and operational experiences through the use of virtual meetings and collaborative sessions has a positive cumulative impact on both the deployed unit and the unit preparing to transition into theater.

## **Reach-Back and Integration**

1-82. KM personnel should consider how to leverage resources within the institutional Army and at home station. The ability to leverage Army schoolhouses or participate in symposiums, conferences, or online forums can greatly assist commanders and staffs by providing reach-back to subject-matter expertise. KM sections should also consider the capabilities of the mission command training centers in assisting units in preparing for deployment.

## **Knowledge Capture and Content Management**

1-83. The storage and transit of classified and unclassified but sensitive files and documents is challenging. The KM section can assist the organization in developing portals that are accessible from theater for document and file storage. This can eliminate or reduce the requirements for couriers, while making the knowledge contained in these documents available for all phases of transition into theater.

## **Family Readiness and Social Media**

1-84. The KM section assists the staff in planning how the unit will maintain contact with families during deployment. The KM section can support family readiness groups by helping them connect and maintain contact with family members. KM personnel consider the use of tools such as the virtual family readiness group site as well as commercial sites and communications platforms as potential solutions, and advise, assist, and educate the organization as needed to establish these means of communication.

1-85. During operations, the KM section operates from the main command post and focuses on two primary areas: to assist the staff by defining the process which enhance rapid adaptation in dynamic operations, and by helping commanders bridge gaps between relevant information commanders require and that which they have. In addition, the KM section helps command post personnel more effectively use the mission command system capabilities.

1-86. The KM section focuses on transferring observations, insights, and lessons learned to follow-on forces, the Center for Army Lessons Learned, and the Army operational knowledge management proponent. Such actions make knowledge available for sharing Army wide.

1-87. The operational Army must continue to apply KM activities throughout the ARFORGEN force pools. Throughout ARFORGEN, the KM section helps the organization capture what it learns, share that knowledge, and integrate its lessons learned into the larger Army training and education base. The supporting KM activities differ only with the intent and changing priorities of each force pool of the ARFORGEN process. Key components of KM success during ARFORGEN are to assign and train Soldiers, choosing and empowering technology, and enabling processes that provide commanders and leaders the required knowledge at the right time.

## Chapter 2

# Knowledge Management Section

This chapter discusses the knowledge management section functions, duties and responsibilities, and training. It also discusses supporting partners for knowledge management.

### SECTION FUNCTIONS

2-1. The knowledge management (KM) section provides advice to commanders regarding the flow of knowledge and situational awareness throughout the organization, to include that of other staff sections. The KM section provides commanders with recommendations for improving knowledge flow and for increasing situational awareness and shared understanding throughout the organization. Commanders, in turn, direct the implementation of KM improvements per their priorities, considering the recommendations of the KM officer, and with consultation from the staff. The chief of staff or the executive officer is responsible for the organization's KM program. (See table 2-1 on page 2-2.)

2-2. The responsibility to manage knowledge does not reside within the KM section; rather, it is an inherent responsibility for all Army leaders. The KM section assists Army leaders in implementing a sound KM approach to facilitate the flow of knowledge throughout the organization. Therefore, leaders at all levels will benefit by understanding KM section functions and how to best utilize the KM section to assist in enhancing knowledge flow and reducing organizational knowledge loss.

2-3. KM section members advise the unit's staff on the KM process and tools. These help the staff to better manage explicit and tacit knowledge. Doing this sustains an operational advantage against enemies and adversaries. The section uses available tools to help the unit create and apply the KM process in order to improve the conduct of operations and mission accomplishment. The KM section also supports unit learning before, during, and after operations. It does this by assisting the staff in developing and disseminating techniques and activities that create or transfer knowledge gained from operations. The KM section enhances mission command by helping organizations integrate information systems into the headquarters in a manner consistent with best KM practices and operational requirements.

2-4. The KM section gives technical network requirements to the signal staff officer. It helps the organization identify knowledge gaps and apply KM principles to the operations process. Thus, the section helps the commander and staff to gain the knowledge necessary to increase situational awareness and shared understanding. Knowledge can shorten the decisionmaking process and improve decision quality while mitigating risk.

2-5. The KM section must build and sustain a knowledge architecture that is social and interpersonal as well as technical. The network enables units to rapidly share tactics, techniques, and procedures; operational observations, insights, and lessons; and validated, explicit knowledge products. Knowledge network architectures use the technical network architecture established by the signal staff officer. It connects subject matter experts to enable individual and organizational learning.

2-6. In forming a KM section, commanders determine who among their staff are best suited to meet the requirements of each of the four KM components of people, processes, tools, and organization; and how they overlap (see paragraph 1-17 through 1-28). Commanders identify those individuals who—

- Best understand the organization's people and their operational and training requirements (skills often resident in operations officers and non-commissioned officers).
- Are subject matter experts on the information systems that support the commander's mission command systems and unique processes of the organization (skills representative of a FA57 or warfighting function master gunner).
- Understand the available tools, including information systems and how they are networked (such as a FA53, FA24, or 25 series MOS).

2-7. Finally, commanders must determine who understands the organization and can best coordinate these requirements to lead KM, make KM decisions for the organization, and represent the organization on KM boards as required.

**Table 2-1. Knowledge management section functions**

<ul style="list-style-type: none"><li>• Advise the commander and staff on KM solutions.</li><li>• Develop techniques and procedures that support effective and efficient unit learning throughout all force pools of Army force generation.</li><li>• Provide a core team to resolve critical KM issues. This team forms the base of a multi-functional KM working group drawn from all staff sections.</li><li>• Recommend integrated applications, processes, and services that provide the capability for effective command post operations and are readily understandable.</li><li>• Get the right knowledge to the right people at the right time.</li><li>• Integrate the KM process into unit functions during all Army force generation force pools.</li><li>• Advise the unit on using the KM process and tools to maximize relevant information availability.</li><li>• Coordinate with external knowledge sources and integrate them into the organizational knowledge network. Coordinate KM requirements with signal staff officer.</li><li>• Train the unit to effectively use and apply the Army professional forums.</li><li>• Develop and maintain a virtual right-seat ride capability. Facilitate virtual right-seat rides. (See paragraphs 3-74 through 3-76.)</li><li>• Analyze newly recommended information technology for KM utility; recommend acceptance and integration by the signal staff officer as appropriate.</li><li>• Help the staff manage the common operational picture and briefings through a KM plan tailored to the unit's needs.</li><li>• Develop and modify command standard operating procedure.</li><li>• Recommend changes to the KM plan as needed.</li><li>• Coordinate the KM plan with the information management plan developed by signal staff officer.</li><li>• Coordinate file and data management procedures that incorporate the most recent and effective standards to enhance search and retrieval capabilities.</li><li>• Coordinate with the signal staff officer for technical network, database, and other related support.</li><li>• Ensure that after action reviews are collected, documented, and disseminated.</li></ul>
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## **SECTION MEMBER DUTIES AND RESPONSIBILITIES**

2-8. The KM section reports directly to the chief of staff or executive officer. The section may contain the following positions: a KM officer, an assistant KM officer, a KM noncommissioned officer, and content management specialists. Section member duties and responsibilities depend on the number of Soldiers assigned to the section. The number of assigned personnel determines how many functions the section can accomplish. Not all positions described here may be authorized or required at a given echelon.

### **KNOWLEDGE MANAGEMENT OFFICER**

2-9. The KM officer directs the KM section. KM officers ensure the KM process and procedures are understood within the unit. They demonstrate how these processes and procedures can improve efficiency and shared understanding during training and enhance operational effectiveness during operations, especially in time-constrained environments. (See table 2-2 for a list of knowledge management officer

responsibilities.) KM officers need not remain in the command post. Commanders may require their KM officer to move with them.

**Table 2-2. Knowledge management officer responsibilities**

<ul style="list-style-type: none"> <li>• Help the staff perform internal and external knowledge gap analyses. Create techniques to bridge gaps.</li> <li>• Recommend creating an organizational knowledge network and provide metrics for evaluating its effectiveness.</li> <li>• Create a unit KM plan and execute it through the unit staff. Ensure the KM section fully supports this plan.</li> <li>• Continuously assess KM as it applies to staff readiness, unit infrastructure, and unit performance.</li> <li>• Advise the commander and staff on integrating KM practices and procedures throughout the organization.</li> <li>• Monitor emerging KM trends for incorporation into unit operations.</li> <li>• Monitor formal and informal social networks that transfer knowledge (that is, who the subject matter experts are, who goes to them, and what connects seekers with subject matter experts).</li> <li>• Facilitate achieving greater knowledge creation and transfer across the organization. Seek feedback to evaluate the progress of knowledge sharing initiatives.</li> <li>• Show staff teams how to develop knowledge sharing within their areas of expertise.</li> <li>• Develop KM policies and procedures and ensure command-wide dissemination.</li> <li>• Develop effective techniques and procedures for organizing, applying, and transferring observations, insights, and lessons from after action reviews into unit operations, standard operating procedures, and training.</li> <li>• Oversee planning and implementing KM activities across the unit by communicating with other commands' KM officers, both horizontally and vertically.</li> <li>• Establish and chair a working group made up of staff representatives and KM officers from subordinate units.</li> <li>• Plan the creation, management, and monitoring of active participation in a knowledge architecture within the unit's organizational structure to facilitate operational synchronization and operational adaptability.</li> <li>• Coordinate and oversee the unit's KM training using Army professional forums training assets.</li> <li>• Oversee the unit's content management efforts. (See paragraph 3-19 and appendix A.)</li> <li>• Serve as the chief architect for the KM structure. Understand the functions of its information systems in order to provide advice on integrating their products into the common operational picture.</li> <li>• Coordinate with the signal staff officer to ensure that the unit's information systems network supports knowledge creation, organization, application, and transfer across the unit.</li> <li>• Help subordinate units without KM sections apply KM.</li> </ul>
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### **ASSISTANT KNOWLEDGE MANAGEMENT OFFICER**

2-10. The assistant KM officer ensures section members understand the KM process and tools. Assistant KM officers are responsible for understanding the Global Information Grid and KM, and for helping the unit use the capabilities of these resources. (See table 2-3 on page 2-4 for a list of assistant knowledge management officer responsibilities.) Assistant KM officers also help the operations officer and signal staff officer map the processes and information systems that produce the common operational picture. The assistant KM officer reports to the KM officer.

**Table 2-3. Assistant knowledge management officer responsibilities**

- Coordinate and integrate the creation and organization of the common operational picture.
- Initiate, coordinate for, and maintain a virtual right-seat ride capability. (See paragraphs 3-74 through 3-76.)
- Execute KM policies and plans within the KM section.
- Improve knowledge sharing and overall unit effectiveness by continuously assessing the unit's KM program, infrastructure, and readiness.
- Develop, organize, and supervise implementation of the unit's content management effort. (See paragraph 3-19 and appendix A.)
- Help the staff perform knowledge analysis to answer the commander's critical information requirements and create solutions for closing persistent gaps.
- Seek techniques to incorporate experiential learning into organizational learning. (See paragraphs 3-79 through 3-82.)
- Map the unit's KM network among personnel. Develop metrics for evaluating KM effectiveness.
- Identify operationally relevant trends; observations, insights, and lessons; and significant actions. Ensure they are distributed vertically and horizontally.
- Ensure processes for directing requests for information work efficiently.
- Coordinate with the signal staff officer to ensure connectivity to the Global Information Grid and application of its capabilities.
- Oversee KM-related roles and responsibilities as directed by the KM officer.
- Establish procedures to monitor the appropriateness of Web site content and eliminate redundant data and files.
- Develop the unit's KM training and certification program.

## KNOWLEDGE MANAGEMENT NONCOMMISSIONED OFFICER

2-11. As the senior enlisted member of the KM section, the KM noncommissioned officer advises the KM officer on improving knowledge creation and transfer within the staff. KM noncommissioned officers help integrate KM training concepts into the unit's individual and collective mission-essential tasks. They oversee KM training certification programs. (See table 2-4 for a list of KM noncommissioned officer duties.)

**Table 2-4. Knowledge management noncommissioned officer duties**

- Help staff sections organize the command post's layout to best facilitate staff interaction.
- Coordinate appropriate audiovisual displays of the common operational picture and other operationally relevant KM products in command posts and other areas.
- Monitor collaboration sites and knowledge networks and advise the staff on relevant content.
- In coordination with the protection staff section, address KM aspects of operations security.
- Advise on designing briefings and text documents.
- Help design templates and formats for recurring knowledge products to increase standardization and reduce redundancy.
- Participate in the KM working group.
- Ensure the unit's content management plan meets Department of Defense requirements and is fully understood and implemented across the unit. (See AR 25-1 for a list of references.)
- Review the unit's file management techniques. Direct adjustments as needed.
- Remain abreast of current and future trends in KM and content management. Integrate them into unit operations as needed.
- Supervise training in knowledge transfer procedures.
- Serve as the unit's expert for KM tool and system training, design, and use.
- Coordinate with the operations officer and signal staff officer to incorporate KM tools, systems, and information system architecture into the common operational picture input design and display.
- Coordinate with signal staff officer technical teams to identify and implement KM initiatives.

## CONTENT MANAGEMENT SPECIALIST

2-12. Content management specialists serve as the unit's experts on content management and retrieval. They ensure knowledge is available to Soldiers when they need it. These specialists help the signal staff section manage digital content with tools that exchange explicit knowledge, collaborate, and connect with subject matter experts across the organization. They implement content management within the four task areas of creating, organizing, applying, and transferring knowledge. Each task area is associated with specific steps of the KM process. (See table 2-5 for a list of content management specialist duties. See appendix A for a discussion of content management.)

**Table 2-5. Content management specialist duties**

- |  |
|--|
| <ul style="list-style-type: none"> <li>• Support implementation of the unit's KM policies and procedures.</li> <li>• Search for and capture observations, insights, and lessons from other units and individuals via non-secure and secure Internet protocol router networks (NIPRNET and SIPRNET) sites and forums.</li> <li>• Facilitate knowledge transfer between units and leaders.</li> <li>• Develop comprehensive document naming conventions, data tagging policies, and data organization for the unit.</li> <li>• Train staff members on how to obtain explicit knowledge stored in knowledge networks (See paragraphs 3-22 through 3-31), databases, and information systems.</li> <li>• Help review the unit's databases and Web sites to determine the security and relevance of content.</li> <li>• Help the KM noncommissioned officer design briefings, text documents, templates, and other recurring knowledge products.</li> <li>• Help the KM officer and assistant KM officer provide expertise and training in using KM tools, processes, and systems.</li> <li>• Remain abreast of current and future trends in KM and content management.</li> <li>• Coordinate with the signal staff officer (through the KM officer) on incorporating current standards to improve information search and retrieval across various data sources.</li> <li>• Supervise and conduct KM process training, including content management procedures for staff members.</li> <li>• Coordinate with signal staff officer technical teams to identify and implement effective solutions in content management.</li> </ul> |
|--|

## SECTION TRAINING

2-13. Training for KM section members focuses primarily on the art of knowledge management and how it contributes to effective mission command. However, commanders cannot overlook the science of information management. As the primary KM trainers in their units, KM section members must understand the processes, systems, technical architecture, and other tools that facilitate the creation and transfer of knowledge to Soldiers and enable them to share it.

2-14. KM training for individual section members often occurs outside the unit in special courses related to the KM process and tools. The additional skill identifier (ASI)-producing AKMQ-C is hosted by the Army operational knowledge management proponent at Fort Leavenworth, Kansas. Other training occurs in the unit, either by distributive learning or by training teams. This training often applies to individual skills and knowledge. The KM working group is a key delivery forum for the section to facilitate and distribute KM training.

2-15. KM section collective training normally occurs in the unit. It focuses on collective skills to help commanders and staffs better apply knowledge in operations and in learning before, during, and after operations.

2-16. The KM section contributes to staff operations by developing KM portions of unit standard operating procedures, including content management practices. The section advises the staff on KM. It trains the staff to perform its own KM functions. In most cases, the section advises the staff rather than performing KM functions itself.

2-17. The KM section can enhance information system capabilities in support of a commander's mission command system through KM practices, networked reach-back, and collaborative applications. The section can also help develop and support staff individual and collective training on these subjects.

2-18. Training is critical to effectively using any information system. Soldiers and staff sections require training on the information system components they will use. Users should be able to test their component's integration into the technical network, produce digital staff products, and use the system to disseminate these products across the social network. Individual training involves how to use individual information system components. Collectively, staffs train in establishing and displacing the command post while developing collective staff products that are vertically and horizontally integrated, with or without digital enablers.

## **SUPPORTING PARTNERS**

2-19. Supporting partners for KM include knowledge management representatives and portal administrators and designers. They provide linkage and communication between the knowledge management section and the supported organization, as well as important technical services and support.

### **KNOWLEDGE MANAGEMENT REPRESENTATIVES**

2-20. Knowledge management representatives (KMRs) are staff section personnel officially designated as the agent of the staff principal to coordinate with the KM staff section. Usually KMRs are the first responders to KM issues. Operationally focused and specialists in their own warfighting function, KMRs must understand the organization's collaborative processes. Normally, they will also have specialized training, such as the AKMQ-C. KMRs manage groups on the section's portals and may have additional privileges or access levels.

2-21. KMRs contribute to successful implementation of KM in their organizations in three main areas:

- Advocacy.
- Support.
- Knowledge brokering.

#### **Advocacy**

2-22. KMRs spread the KM message; educating and emphasizing the importance of sound KM practices. For example, they demonstrate to co-workers how to share knowledge using available KM tools. As an advocate, the KMR—

- Transmits communications from KM section to staff section.
- Encourages knowledge sharing and learning by example.
- Leads KM awareness training at staff section professional development events.
- Collects and shares feedback from the staff section to the KM section.

#### **Support**

2-23. KMRs act as representatives from their own staff section for KM initiatives. They attend KM meetings and seek out projects and processes to streamline and automate. In addition to representing KM initiatives to their staff sections, they provide their own staff section's perspective to the KM section to enable them to better understand the needs of the organization. In the support role, the KMR—

- Serves as liaison between the KM section and their own staff section.
- Plans, coordinates, and delegates KM activities for the staff sections.
- Provides feedback to the staff section on KM initiatives.
- Provides suggestions for new KM initiatives or improvements.

### Knowledge Brokering

2-24. KMRs link their colleagues to knowledge and information sources outside their immediate context, showing their co-workers where and how to find information and knowledge beyond their normal sources. As knowledge broker, the KMR—

- Facilitates knowledge sharing during meetings, activities, and operations.
- Networks with other KMRs and builds contacts with experts.
- Responds quickly to staff section requests for support with timely push to the KM section.
- Identifies major knowledge and information needs in the staff section.

2-25. Willingness to learn, communication skills, and ability to overcome resistance to change are key attributes for a KMR to be successful. KMRs must be able to influence others to be open to KM initiatives and implement new processes and tools.

### PORTAL ADMINISTRATORS

2-26. Portal administrators are often assigned to the signal staff section. The KM section information management officer assigns their work. In garrison, network services are provided by the network enterprise center, or units may choose to deploy their tactical systems. Signal operations provide network connectivity. Often portal administrators manage multiple portals. They perform tasks such as—

- Administration.
- Design and development.
- Backup and migration.
- Maintenance.
- Customization.
- Troubleshooting.
- Security.
- Configuration.

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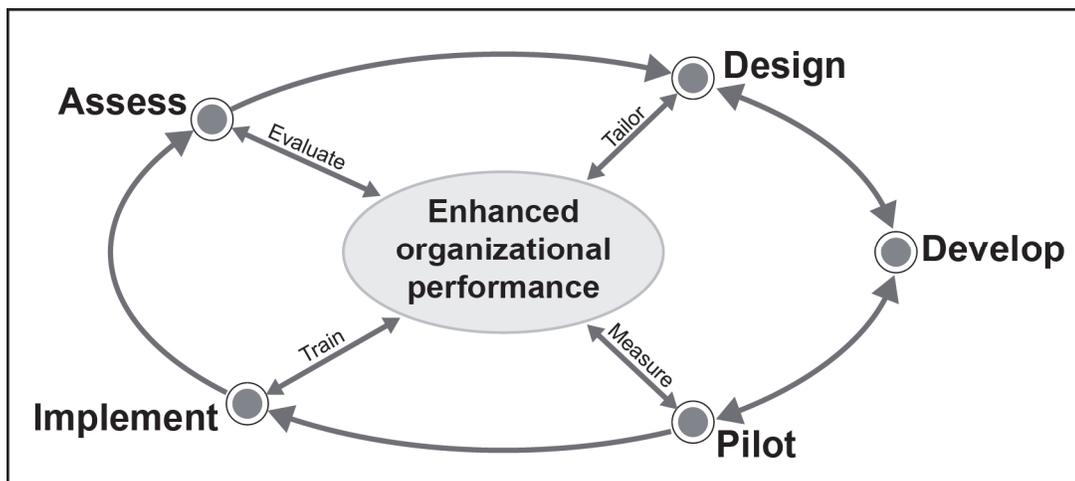
## Chapter 3

# Knowledge Management Process

This chapter discusses a flexible five-step process that the knowledge management section employs to help units leverage knowledge more effectively. The knowledge management process steps are assess, design, develop, pilot, and implement.

## ASSESS

3-1. The knowledge management process steps are sequential, normally beginning with assessment, but knowledge managers may revisit steps as needed. Figure 3-1 illustrates the knowledge management process. Each step normally includes subordinate activities that are not necessarily limited to a given step. Examples of subordinate activities are discussed under the step with which they are commonly associated. The knowledge management section considers and selects the most appropriate activities for the unit. The knowledge management section can modify the process according to the needs of the unit.



**Figure 3-1. Knowledge management process**

3-2. As a step of the operations process, assessment is continuously monitoring and evaluating the current situation and the progress of an operation. In the context of the knowledge management process, assess is analyzing the unit's knowledge needs. It results in establishing knowledge management objectives for the unit.

3-3. Assessment precedes all other steps. This step begins with determining what information leaders need to make decisions, and how the unit provides information for those leaders. It identifies gaps in the process, and as it establishes objectives, begins to consider possible solutions to address the gaps. As solutions are implemented, they are assessed to evaluate their effectiveness and to recommend new solutions or improvements.

3-4. Assessment is continuous because it includes monitoring the current situation and progress toward accomplishing those objectives. Monitoring begins with evaluating a unit's foundations—that is, how the unit manages time and information, and what is considered critical for its leaders to make decisions. Unit performance drives assessment, as knowledge managers assist the unit in identifying the difference between what its members know and what they must know to accomplish the mission. The information the unit needs will drive the assessment of how that information should be provided, disseminated, displayed, and processed to help foster knowledge creation.

3-5. Contributing to the assess step, the KM officer may consider conducting interviews with leaders and personnel at every level within the organization. Having the perspectives of many members of a unit or organization will help in defining knowledge-based solutions that can then be staffed and more likely accepted. Depending upon the situation and the rapport the interviewer is able to establish, interviews may be structured, semi-structured, or unstructured in nature. Interviews help identify shortfalls in knowledge management proficiency that must be addressed, the maturity of existing knowledge management practices in the unit, and knowledge management gaps.

3-6. Analysis of the unit's knowledge needs determines if the performance shortfalls require additional training, materiel, or knowledge solutions. Aligning solutions to shortfalls is the key to solving the right problem. If knowledge is seen as deficient, the KM section recommends knowledge-based solutions. Analysis activities under the assess step include, but are not limited to, the following:

- Standards analysis.
- Time management analysis.
- Meeting analysis.
- Report analysis.
- Technical systems analysis.
- Content management analysis.

### **STANDARDS ANALYSIS**

3-7. Standards analysis helps a unit determine the degree to which the unit follows standard knowledge management practices and what needs improvement. The intent is to achieve standardization in KM practices across the force. Using standard KM practices enables units to share knowledge more efficiently and to make managing knowledge routine and efficient. Commander's guidance, policy letters, and standard operating procedures (SOPs) for individual elements in the organization all contribute to establishing and adhering to KM standard practices. The standards analysis should ask the questions:

- Does the organization's SOP establish standards for KM practices?
- Do subordinate units follow a common standard?
- Is there a standard for the SOPs?
- Are the standards being followed?
- What is the purpose behind the standards?
- Are the SOPs current?

### **TIME MANAGEMENT ANALYSIS**

3-8. The purpose of time management analysis is to determine if an organization is using time efficiently, how it can reduce wasted time, and how it can make the best use of available time. This analysis focuses on the unit's battle rhythm. Battle rhythm is a continuing focus area for most headquarters that must operate within their own decision cycle, as well as interface with higher headquarters, stakeholders, and adjacent headquarters while supporting their subordinate units with timely direction and information.

3-9. *Battle rhythm* is a deliberate daily cycle of command, staff, and unit activities intended to synchronize current and future operations (JP 3-33). Table 3-1 illustrates sample battle rhythm considerations. An organization's battle rhythm consists of meetings, briefings, and other events synchronized by time and purpose. The battle rhythm is the primary means for the unit to synchronize how information is to be presented in the separate meetings. The battle rhythm needs to be understood and managed to ensure that temporal events are nested and the meetings flow in a logical manner. The flow of information from meeting to meeting will produce knowledge staffs use to plan and execute and leaders use to make decisions.

3-10. Some considerations for the battle rhythm are—

- Ensure the unit's battle rhythm is nested with higher events.
- Minimize changes to the battle rhythm to allow lower units to establish their routine.

- Tailor the battle rhythm to match the events happening on the ground and the intensity of the engagement.
- Ensure there is time between routine events to allow for leaders and staffs to plan and consider information and knowledge garnered.

**Table 3-1. Battle rhythm considerations**

External considerations	Internal considerations
Higher headquarters' battle rhythm	Commander's battlefield circulation
Coalition considerations	Shift change
Time zones	Staff updates and time for preparation
Complexity, intensity, and duration of operations	Components or subordinate command requirements
Very important person visits	Three event horizons:
Enemy actions	Current operations – "What is"
Targeting / air tasking order cycle	Future operations – "What if"
Media / news cycle	Future plans- "What's next"
Theater bandwidth (video teleconferencing)	Planning process
	Decision cycle

**MEETING ANALYSIS**

3-11. Meeting analysis helps units determine the efficiency of the meetings conducted from the perspective of efficient use of time and whether the meetings serve the purpose intended. Its outcome is to enable organizations to manage meetings effectively. Army headquarters organize their staff into command posts (CPs), the main CP and tactical CP; each with a specific purpose. Command posts consist of cells (functional and integrating) and staff sections, including the KM staff section. Cells and staff sections conduct meetings, which must be sequenced within a unit's battle rhythm.

3-12. Meeting management is the process of ensuring meetings are nested within the battle rhythm and duplicative efforts are eliminated unless redundancy is required. Meetings have the potential to be the biggest consumer of time in an organization, if they are not managed properly. Meetings should require specific participants to attend who provide key inputs that result in outputs that enable further synchronization by the staff, or ultimately require command decisions. The decision points must be tied to the commander's critical information requirements, which focus knowledge products in an integrating effort to create shared understanding.

3-13. Some staffs use what is sometimes referred to as a "seven-minute drill" (borrowing a term from sports) to ensure meetings are needed and useful. The seven-minute drill provides a format by which the staff proponent is required to concisely summarize the purpose for a prospective meeting, its linkage to other meetings, and how it supports decisionmaking requirements. Every meeting should include the following five critical elements to ensure it is well organized and achieves what was intended:

- Have a clear purpose.
- Have a meeting agenda.
- Identification of personnel required to attend.
- Identification of required inputs.
- Identification of the expected deliverables or outputs.

3-14. Meeting assessments can be conducted using a simple checklist with comments:

- Did the meeting take place?
- Were notifications sent to attendees?
- Did the meeting occur as scheduled?
- Were collaborative tools prepared in advance?
- Did it include the five critical elements?

- Were all designated attendees present?
- Knowledge transfer:
  - Were all key tasks achieved?
  - Were all input products available?
  - Were all output products templated and provided to follow on meetings as required?

<p style="text-align: center;"><b><u>General information</u></b></p> <p><b>Purpose:</b> To ensure knowledge flow throughout the organization by identifying KM needs, trends, and issues; establishing priorities and processes; providing training and technical support; and resolving issues</p> <p><b>Meeting type:</b> Working group</p> <p><b>Frequency:</b> Biweekly, Thursday, 1500</p> <p><b>Duration:</b> 60 minutes</p> <p><b>Location:</b> G-6 (S-6) conference room</p>	<p style="text-align: center;"><b><u>Participants</u></b></p> <p><b>Staff proponent:</b> KM officer</p> <p><b>Chair:</b> LTC John Smith</p> <p><b>Members:</b></p> <ul style="list-style-type: none"> <li>● KM representatives from coordinating, special, and personal staff sections</li> <li>● Unit knowledge management officers</li> <li>● Web master</li> </ul> <p><b>Command group attendance:</b> Not required</p>
<p style="text-align: center;"><b><u>Ongoing requirements</u></b></p> <p><b>Inputs:</b></p> <ul style="list-style-type: none"> <li>● All members: Recommended changes to KM processes (including training), tools, and organization; KM issues</li> <li>● Signal staff section, G-6 (S-6): Planned network outages; technical and portal capabilities</li> </ul> <p><b>Outputs:</b></p> <ul style="list-style-type: none"> <li>● Updates to KM standard operating procedure</li> <li>● Changes to processes</li> <li>● Recommendations to chief of staff for battle rhythm</li> </ul> <p><b>Feeds:</b></p> <ul style="list-style-type: none"> <li>● The command's collaborative processes</li> <li>● Portal design</li> <li>● Information sharing and MDMP cycle</li> <li>● Knowledge documentation and creation</li> </ul>	<p style="text-align: center;"><b><u>Portal exploitation</u></b></p> <p><b>Products:</b></p> <ul style="list-style-type: none"> <li>● KM working group battle rhythm site URL</li> <li>● Standards: battle rhythm, slide master, logo URL</li> </ul> <p><b>Techniques:</b> Portal change request and discussion board</p> <p><b>Weekly agenda items:</b></p> <ul style="list-style-type: none"> <li>● Roll call, due outs from last meeting, and minutes of last meeting</li> <li>● Review of upcoming suspense(s) and issues</li> <li>● New action items (people, processes, tools, and organization)</li> <li>● Staff and task force briefings</li> <li>● Due outs from today's meeting</li> </ul>
<p><b>LEGEND</b></p> <p>KM knowledge management</p> <p>URL uniform resource locator</p>	

**Figure 3-2. Sample knowledge management working group agenda**

3-15. Working groups and boards are common battle rhythm meetings. A working group is a grouping of pre-determined staff representatives who meet to provide analysis, coordinate, and provide recommendations for a particular purpose or function (ADP 5-0). The working groups will integrate members from across the staff to help break down stovepipes and synchronize information. For knowledge management professionals this is an excellent means to assess gaps and implement solutions. An example of a KM working group agenda is shown in figure 3-2.

## REPORT ANALYSIS

3-16. Report analysis examines how reports are created, organized, and transferred. It identifies who uses the information reports contain and how to make that information available to the most people, consistent with security requirements. The vignette (“Knowledge Management in Afghanistan”) at the end of this chapter provides an example of report analysis.

## TECHNICAL SYSTEMS ANALYSIS

3-17. Technical systems analysis provides operational and functional analysis of the technical systems supporting knowledge management. The KM section can use the results to prepare customized digital status charts (often called “digital dashboards”) to display key knowledge management performance indicators. These indicators show an organization’s knowledge management status (or “health”). Digital dashboards use visual data displays from war-fighting functions and information systems to provide action notices and warnings, track progress, and summarize knowledge management performance.

3-18. The KM section may be tasked to determine knowledge management requirements for new information systems before they are given to the signal staff section for connection to the technical network. The KM officer and signal staff officer work together to meet user requirements while ensuring the confidentiality, integrity, and availability of the technical network are not jeopardized.

## CONTENT MANAGEMENT ANALYSIS

3-19. Content management is an activity that focuses on managing digital and non-digital knowledge and information contained in any medium that conveys such content. Before computers and other electronic information systems became widely used, content management primarily concerned data and information technology administration based on data standardization. Content management in an organization using KM today has a wider focus. Content managers still consider when and how to apply information and knowledge to help a unit accomplish its mission. However they also consider how the visibility and accessibility of digital and non-digital knowledge products within and outside the organization affect mission accomplishment. This assessment includes how data is managed throughout its life cycle.

## DESIGN

3-20. In the context of the knowledge management process, design is identifying tailored KM products or services that effectively and efficiently answer information requirements and meet the objectives established in the assessment step. The KM products or services could be refinements of an existing process or a new solution identified after the assessment. For example, if Soldiers waste time finding documents or expertise related to a specific job, the unit needs to determine where to find an expert or a reference. The solution may be to design a community of practice for Soldiers with similar experiences and expertise to interact with others performing similar duties. (See paragraphs 3-41 and 4-42 for a discussion of communities of practice.) Another solution may be to create a knowledge center (see paragraph 3-37) with a document library and a help desk.

3-21. During the design step, knowledge managers must determine which knowledge strategy would best meet the unit’s needs. A key consideration is whether the unit’s knowledge shortfalls lie more in the transfer of knowledge or whether knowledge creation is the requirement. The knowledge requirements strategy gives priority to one or the other. A strategy that focuses on connecting people with content through technical networks supports organizing, applying, and transferring explicit knowledge. A strategy that focuses on developing social networks is well-suited to transferring or creating tacit knowledge. Chapter 1 discusses knowledge strategies.

3-22. Design activities may include, but are not limited to, designing knowledge networks. A knowledge network is social and interpersonal as well as technical. This network type helps units to rapidly share tactics, techniques, and procedures; operational observations, insights, and lessons; and validated, explicit knowledge products. The knowledge network architecture uses the technical network architecture established by the signal staff section.

3-23. Designing collaborative environments through knowledge networks for online sharing, including chat rooms, white-boarding, forums, and online virtual teams, are among the tasks associated with the design activity for knowledge networks. The types of knowledge networks using technical network architecture include tactical Web portals and Army professional forums.

### **TACTICAL WEB PORTALS**

3-24. Web portals are Web-based collaboration tools that enable staffs to manage and use shared information such as documents, images, news and announcements, surveys, and discussions. If used effectively, they can be used for managing knowledge in organizations for supporting creation, capture, storage, and dissemination of that information. Portals enable the staff to have ready access to the organization's written documents, photographs, video, or other digital content. Portals may have business, intelligence, or information communication systems capabilities and can be Army G-6 net worthiness approved government or commercial products.

3-25. The signal staff section at each echelon normally performs technical management of a tactical portal. The KM staff section manages content and assists the signal staff section with developing governance. Keys to successful governance include—

- Identify portal objectives and business case.
  - Clearly define the scope.
  - Set expectations upfront.
  - Educate principals on the need for a portal.
- Define project roles and responsibilities.
  - Give people ownership within the project.
  - Set up domains of responsibility.
- Create high-level policies and procedures.
- Security rules.
- Global settings.
- Add, edit, and delete processes.
- Provide communication and education.
  - Give users the ability to learn about the system.
  - Create two-way communications and prove it means something.

3-26. Some of the advantages of Web portals are the ability to share organizational information across the staff, down to subordinates, and up to higher echelons simultaneously. Users can rapidly share observations, insights and lessons learned, and can shorten the training time for new staff members. By using dashboards or customized features in conjunction with the mission command systems, commanders and key leaders can quickly achieve a common operational picture.

### **ARMY PROFESSIONAL FORUMS**

3-27. The Army calls its supported and structured communities of practice professional forums. Army professional forums intersect with other knowledge networks, communities of purpose, and knowledge centers through their members and facilitators. They maintain a secure place where candid conversations can occur. Army professional forums connect various knowledge networks into an increasingly compatible Army-wide network. This is done by creating a virtual environment in which Soldiers exchange knowledge. Army professional forums maximize collaboration and productivity improvements across Army organizations. These forums allow sharing lessons from training and operations online. The online environment enables those needing the information to learn and apply it in hours rather than months.

3-28. Army professional forums represent a wide variety of organizations and interests, but generally are one of four types: unit forums, leader forums, functional forums, and warfighter forums. Army professional forums, which share the characteristics listed in table 3-2 on page 3-8, focus on sharing knowledge on training, operations, doctrine, leader development and force design. Appendix E provides information on facilitating a professional forum.

## Unit Forums

3-29. Unit forums are social networks that support connection and collaboration up and down a unit's chain of command. They are hierarchical and directive. Information is shared immediately after operations, from the most complex operations to low-level patrols, and is rapidly distributed to unit members. The KM section normally builds social knowledge networks. The section may use Army professional forums for support in constructing and operating them. The signal staff section builds unit networks. However, the KM section makes sure knowledge placed on unit networks is organized. The section recommends ways to use these unit networks effectively and efficiently to meet the unit's knowledge requirements.

## Leader Forums

3-30. Leader forums such as Company Command Net, NCO Net, and Leader Net, are networks that allow Army-wide collaboration among peer leaders. Net forums create and transfer knowledge through conversations among Soldiers with similar leadership roles. Members request assistance or provide feedback by posting unclassified versions of tactics, techniques, and procedures; standard operating procedures; and observations, insights, and lessons from outside the unit. Agencies outside the unit construct these online collaborative spaces. Unit KM sections provide connections to them. Additionally, KM sections monitor how unit members use the networks to ensure compliance with operations security. Should the unit network demonstrate potential value as an Army-wide network, its KM section obtains support from Army professional forums.

## Functional Forums

3-31. Functional forums include warfighting function forums, such as the Sustain Warfighter Forum (part of the Sustainment Knowledge Network); and other functional forums, such as Single Link. These are networks that support collaboration among leaders and subordinates who share functional duties and skills. (See paragraphs 3-37 and 3-38 for a discussion of knowledge centers and knowledge networks.) These networks allow all ranks to exchange expertise equally in a positive, professional manner. Again, agencies from outside the unit normally develop these networks, while unit KM sections provide connections to them. KM sections also monitor members' use of the networks to ensure compliance with operations security.

## Warfighter Forums

3-32. Warfighter forums are communities that promote teaching, training, and collaboration, generally but not exclusively among brigade combat teams and functional and multifunctional brigades. Examples include the Heavy Brigade Combat Team (HBCT) Warfighters Forum, the Infantry Brigade Combat Team (IBCT) Warfighters Forum, the Stryker Brigade Combat Team (SBCT) Warfighters Forum, and the Battlefield Surveillance Brigade (BFSB) Warfighters Forum. Warfighter forums can also be functional in nature, such as the Sustain Warfighter Forum. Focused on training, readiness, and leader development, they leverage a senior mentor process and network technology to expedite lessons learned and issue resolution. Warfighter forums cross many domains and command lines, facilitating the participation and support of operational and generating forces. Warfighter forums serve as a training, doctrine, and force design conduit for the Army's brigade combat teams (BCTs) and other organizations to perform at higher levels of mission proficiency.

**Table 3-2. Characteristics of Army professional forums**

Share the design principles of communities of practice.  
 Approved and supported by the Army.  
 Moderated and facilitated.  
 Linked to the organization's objectives.  
 Members do not necessarily share a single, common problem.  
 Crosses organizational boundaries.  
 Contains many communities or networks.  
 Membership is limited to those in the function, echelon, or other common characteristic.  
 Name is meant to communicate the intent of the professional conversation.  
 Positive voice for the Army.  
 Participation is voluntary.  
 Organizational support is provided but unobtrusive.  
 Adheres to established standards of implementation and sustainment of the forum.

## VIRTUAL COMMUNITIES

3-33. The design step may include assisting in setting up or connecting to other types of virtual communities to facilitate knowledge sharing. Communities are groups of people sharing common concerns, problems, or professional interests. Individuals deepen their knowledge and expertise by regularly interacting with each other. Communities are a natural part of organizational life. These people may not work together every day; rather, they meet because they find value in the interactions. As they spend time together, members share information, insights, and advice. They help each other solve problems. They discuss situations, their aspirations, and their needs. Some communities create tools, standards, generic designs, and publications. Others simply develop tacit knowledge that they share. Members accumulate knowledge and, through this process, form ties based on learning together. Over time, they develop a perspective on the topic as well as a body of common knowledge, practices, and approaches. Members develop relationships and establish ways of interacting. Communities do not need technology to exist. They are completely social networks; however, technology has allowed communities to form without regard to members' locations. This has broadened their reach and made them more powerful and useful than ever before.

3-34. Army virtual communities take many forms, based on their purpose and the type of interaction among members. Some focus on accomplishing a specified set of objectives. Others focus on job-related solutions. Some allow access to broad information repositories, link members to leading experts, and facilitate document sharing. Others inform and link groups with which members share interests.

3-35. Each virtual community has a life cycle and serves a specific purpose. Key to Army virtual communities (such as Army professional forums) are links to organizational objectives and a need for facilitated, managed conversations. Forums that lack these features (most informal networks) tend to focus on nonprofessional areas. The types of virtual communities include informal networks, knowledge centers, knowledge networks, communities of interest, communities of purpose, and communities of practice.

## Informal Networks

3-36. Informal networks consist of people who interact with one another but have few common bonds or little mission focus. These networks allow members to communicate and share information and data informally. E-mail and instant messaging are communications media often used to link informal networks. Using these tools to communicate, people can form large, extensive communities. However, these communities lack strong interpersonal links. Members are tied to the community's focus but have few interpersonal bonds. The Army does not usually support informal networks.

## Knowledge Centers and Knowledge Networks

3-37. A knowledge center is a Web site where individuals share documents and engage in limited conversation concerning them. The knowledge center may include additional collaborative tools as either links or add-on features. A knowledge center's purpose is to help people find or share documents related to the center's subject. There is no enduring bond between users other than as members of an organization or their interest in the center's subject.

3-38. A knowledge network shares the characteristics of knowledge centers described in paragraph 3-37, but links multiple organizations by serving as a centralized "warehouse" for information that crosses organizations. Knowledge networks enable members of different organizations to communicate and collaborate effectively. Examples of Army knowledge networks include the Cross Command Collaboration Effort, the Fires Knowledge Network, the Maneuver Support Center of Excellence Knowledge Network, and the Army Test and Evaluation Command Knowledge Network. Some Army knowledge networks also describe themselves as, and share characteristics of, a warfighter forum. (See paragraph 3-32, Warfighter Forums.)

## Communities of Interest

3-39. A community of interest is a group of people who share a common interest or hobby. These people exchange ideas and thoughts about the subject but may know or care little about each other. Nonetheless, participation in a community of interest can be compelling and entertaining. Members may create a community to which they return frequently and remain for extended periods.

## Communities of Purpose

3-40. A community of purpose is a group of people tasked to accomplish a specific objective. These communities' life spans are usually limited to the time required to accomplish the objective. Communities of purpose are valuable for teams and working groups. They are usually hierarchically structured and provide for some level of managed conversation and document sharing. Collaboration within these communities may be synchronous and asynchronous. Synchronous collaboration occurs in real time. It requires capabilities similar to those of a chat room, conference call, or video teleconference. Asynchronous collaboration occurs when technical capabilities or other factors do not allow all correspondents to simultaneously communicate with each other. Means of effecting asynchronous collaboration include telephone calls, e-mail, and instant messages that do not include all correspondents. A key to a community of purpose is the ability to link expertise rapidly to solve a specific problem. An example of a community of purpose might be an improvised explosive device defeat community formed to identify the best way to counter a specific device type. Other tools communities of purpose may use include desktop video teleconference collaboration tools, repositories, expertise locators, and wikis. (A wiki is software that lets users create collaborative Web sites. These sites are also called wikis.)

## Communities of Practice

3-41. Community of practice refers to a group of people with a common interest who collaborate over an extended period to share ideas, find solutions, and build innovations. These groups are voluntary, self-organizing, and self-policing. They build a social network and develop bonds of trust deeper than those of other communities. Many organizations consider the benefits of communities of practice compelling enough to purchase the hardware and software necessary to create and maintain them. Communities of practice are widely seen as cost-effective ways to develop organizational knowledge, create new knowledge, stimulate innovation, and share existing tacit knowledge.

3-42. Communities of practice serve a functional purpose as well. Members of the community assist each other by sharing experiences, suggesting strategies, and exchanging information on community-related issues or projects. A key component of communities of practice is the vitality of their conversation, meaning the frequency with which members communicate both within and outside the community's forums. Most research suggests 75 to 80 percent of conversations between members occur outside those forums. Communities of practice are most notable for the bonds between members and the trust members place in one another regarding assistance given and received.

## DEVELOP

3-43. Develop is the step that actually builds the solution derived from the assessment and design steps. First, knowledge managers and the staff collaborate to establish the social framework for the virtual communities designed in the preceding step. Knowledge management representatives (KMRs) provide insight and advice on the social frameworks best suited to the organization. Once the social frameworks are established for the virtual communities, signal staff section personnel, usually portal administrators or designers, assist in connecting them to the technical network. The KM section works with the unit on both aspects of this step. (Chapter 2 discusses KMRs and portal administrators and designers.)

## PILOT

3-44. Pilot is deploying the KM solution and testing it with the unit to validate it. This aspect is an incremental test of a modification to an existing process or procedure. Important considerations of the pilot step include communicating the proposed KM solution to the commander and staff and ensuring acceptance or discussing alternatives as needed. The KM section must be prepared to train and coach unit personnel as needed in order to successfully deploy and test the solution. Key activities of the pilot step are collaborative assistance and team-peer assistance.

## COLLABORATIVE ASSISTANCE

3-45. Collaborative assistance involves meeting (face-to-face or virtually) to help a leader or unit that requests assistance. The members share their knowledge with those who requested help. Collaborative assistance is a powerful tool in building intuition skills, making sense of cues and patterns for upcoming missions, and resolving tactical problems. These collaborative assists support knowledge transfer.

## TEAM-PEER ASSISTANCE

3-46. Team-peer assistance is a type of collaborative assistance. Team-peer assistance involves passing knowledge and insights from people outside the unit to unit members via virtual or face-to-face meetings. Mobile training teams are examples of team-peer assistance. All participants benefit from the dynamic learning environment generated by the interaction between unit personnel and assisting personnel. The assisting personnel return home with a broader knowledge base, while the assisted unit uses the knowledge gained to improve its readiness.

3-47. Units conduct team-peer assists when—

- A unit is about to conduct an operation similar to one that another unit conducted earlier.
- The unit has not conducted a certain type of operation recently, and it needs to know how tactics, techniques, and procedures have changed.
- There is enough time to disseminate the knowledge gained and incorporate it into the plan.

3-48. A team-peer assist does the following:

- Targets a specific technical or operational challenge.
- Identifies possible approaches and lines of thought that have proven effective in practice.
- Promotes sharing of knowledge between the team and Soldiers of the assisted unit.
- Develops strong networks within the assisted unit staff, between the assisted staff and assisting team members, and with Army professional forums.

3-49. Techniques for team-peer assistance visits include the following:

- Plan the team-peer assist early enough to be useful. It should start during planning and continue until mission completion.
- Share outcomes of team-peer assists with other organizations with similar needs.
- Clearly articulate to the assisting team both the problem and the objective of the assist. Be prepared to reframe both during the assist. Give the assisting team context via briefing material.

- Assemble an assisting team tailored to the objectives of the assist. Consider inviting people who have diverse skills and experience, challenge mental models, and offer options and new approaches. Invite people from other disciplines and organizations.
- Offer help, knowledge, and experience. Offer to reduce the organization’s workload. Do not criticize the organization or add to its workload.
- Provide enough preparation time to form the peer-assist team and allow it to rehearse the assist.
- Recommend operational changes.
- Prepare an action list at the end of the meeting. Share progress against this list with the participants afterwards.
- Ask participants to consider what they have learned and will apply from the event.

## IMPLEMENT

3-50. The fifth step is implement. Implement is executing the validated KM solution and integrating it into the unit information systems that support mission command components and operations within any phase of the operations process. Training and coaching personnel on their specific roles and tasks continues as needed. Knowledge managers monitor the initial implementation of the KM solution and make any adjustments needed. Once the KM solution is fully implemented and integrated into the operations process, knowledge managers continue to monitor and assess results.

3-51. The KM solution, when implemented, enables the unit to become a “learning organization”—able to effectively and efficiently capture and disseminate lessons learned, and incorporate what was learned into tactics, techniques, and procedures.

3-52. Learning activities include learning before, during, and after operations and various learning techniques. Learning techniques include virtual right-seat-rides, storytelling, and experiential learning.

## LEARNING BEFORE, DURING, AND AFTER OPERATIONS

3-53. The KM section helps facilitate learning during all operations process activities. The goal of learning is to improve unit performance. Learning should—

- Be relevant to current or projected operations.
- Be specific (clear, crisp and precise).
- Be applicable.
- Include knowing where to obtain support.

3-54. Learning occurs before, during, and after operations. Learning before operations involves studying the applicable operational and mission variables, determining what needs to be learned, and determining how to acquire and disseminate the required knowledge. This learning includes determining who has participated in a similar operation before and what can be learned from that experience. Learning before operations takes place before and after formal planning begins. Learning during operations occurs while assessing ongoing operations. It involves identifying lessons and determining how to apply them. Learning after operations involves recording what happened, identifying what was learned, and determining how to apply lessons to succeeding operations. Learning after operations is based on the after action review (AAR) process. (Appendix B discusses the AAR process.)

3-55. The KM section establishes techniques and procedures for the staff to use in learning before, during, and after operations. The section organizes knowledge acquired from the learning in a way that makes it available when required and transferrable when needed. The staff creates and applies knowledge during the current operation and succeeding ones. However, the KM section should proactively organize this knowledge and transfer it to users needing it; otherwise, it contributes little for the resources invested. Only rarely and by exception does the KM section actually conduct training. Rather, it supports the staff and establishes the procedural and learning environment in which learning can be accomplished. The KM section facilitates knowledge transfer. It is not normally the direct “doer.”

**Learning Before Operations**

3-56. Learning before operations occurs before deployment or after deployment during the planning phase of the operations process. It begins with the commander and staff analyzing the operational environment in terms of the operational variables: political, military, economic, social, information, infrastructure, physical environment, and time. (ADP 6-0 discusses the operational variables.) This analysis is essential to establishing the understanding of the projected theater of operations fundamental to mission command. Learning at this point includes lessons learned integration.

3-57. Learning during planning begins with the commander's visualization and continues throughout the military decisionmaking process. Within this process, the steps of mission analysis and course of action analysis (war-gaming) are those in which learning is most prominent. The KM section provides collaboration sites and spaces for these activities. The section also helps organize the staff products that result, so they can be searched or disseminated as necessary.

3-58. Mission analysis produces knowledge about the specific situation and operational environment described in terms of the operational or mission variables. Mission analysis results in a mission statement, initial commander's intent, initial commander's critical information requirements, and initial planning guidance. Intelligence preparation of the battlefield (IPB) also produces knowledge. Each step of the IPB produces knowledge about the enemy, civil considerations, and environment (to include weather effects) needed to accomplish the mission. (See FM 2-01.3.) The KM section organizes the outputs of mission analysis as well as the supporting knowledge products generated by the staff. The section also makes organizational collaborative spaces and connections to external sources of knowledge and expertise available. These capabilities enable collaboration as part of the learning.

3-59. The next step in which learning is prominent is course of action analysis. Here, the action-reaction-counteraction considerations and analysis produce knowledge for all participants. The conclusions suggest to the commander and staff possible outcomes for each of the operation's phases, both those selected and those not selected. Participants learn about the options available during any phase and prepare branches based on the commander's guidance as the time available allows. Finally, course of action analysis produces measures of effectiveness and measures of performance for assessing the operation during preparation and execution. The KM section can arrange for remote services to conduct the war game virtually. War games are by their nature collaborative events. A virtual war game allows this collaboration to occur without bringing all participants to one place. Working with the G-6/S-6, the KM section arranges a system for organizing and storing raw data as well as the knowledge produced (the conclusions and analysis).

3-60. Once a unit has received orders to deploy, it focuses on learning as much as it can about its projected area of operations. The commander determines when to shift the focus of analysis from the operational variables to the mission variables of mission, enemy, terrain and weather, troops and support available, time available, and civil considerations. At that point, it is feasible to use learning techniques that transfer tacit knowledge from the organization the deploying unit will replace. When technically possible, the deploying unit participates virtually in the deployed unit's post-operations assessments (including mission debriefs and after action reviews).

**Learning During Operations**

3-61. Assessment precedes and guides every operations process activity and concludes each operation or phase of an operation. Assessment supports not only adjustments to operations but also learning. Learning during operations is based on assessment results. Continuous assessment provides information that is developed into knowledge throughout planning, preparation, and execution. Staff elements maintain this knowledge in their running estimates. (See ADP 5-0 for a discussion of running estimates.)

3-62. Assessment provides data, information, and knowledge that staffs can analyze. Staffs look for patterns that indicate the need to adjust how the organization applies tactics, techniques, and procedures. This task is key if the organization is to adapt effectively to changes in enemy practices and the operational environment. Staffs consider both immediate and long-term requirements. Assessment uses measures of effectiveness and measures of performance to indicate an operation's progress.

3-63. Learning during operations includes validating or disproving assumptions on which the operation order was based. Assessment supports this learning. This form of learning -- checking the validity of assumptions as well as the effectiveness of tactics, techniques, and procedures -- is critical to successful adaptation during operations.

3-64. The KM section helps organize the data, information, and knowledge produced by assessment during operations. Organized knowledge can be disseminated more easily to those who require it for assessment. The KM section also provides services to help the staff create knowledge out of information produced during the operation. They further develop systems for applying this knowledge within the staff.

## Learning After Operations

3-65. Learning after operations occurs during lulls between missions and after redeployment. The doctrinal techniques of learning after operations are the mission debrief, the AAR, and lessons learned development. The KM section normally will not perform these directly. KM Soldiers usually support their conduct by others in the unit. This support includes collecting and organizing the results so they can be easily disseminated and understood. These learning techniques are well established. However, KM techniques can enhance their effectiveness by codifying the information they collect and facilitating its dissemination.

### *Mission Debriefs*

3-66. Mission debriefs occur immediately after a unit completes a mission. They capture information before Soldiers forget it. Knowledge captured in mission debriefs should be disseminated by the most expeditious means available, guided by the principle, "What one Soldier knows, all know." Higher headquarters personnel normally perform these debriefs. Mission debriefs may include all unit members and attached personnel, especially at the lowest echelons. Higher echelon debriefs may include only unit leaders. Normally, mission debriefs are oral. Sometimes a written report is required. Information in written reports should include—

- Size and composition of the unit conducting the operation.
- Mission statement, including the form of maneuver or task (for example, patrol, raid), location, and purpose.
- Departure and return times.
- Routes used.
- Detailed description of the terrain and enemy and civilian activities.
- Results of any contact.
- Personnel and equipment status at the end of the operation.

### *After Action Reviews*

3-67. The AAR is designed to provide feedback on performance during exercises by involving participants in the training diagnostic process. Involving participants increases and reinforces learning. Although the AAR was originally developed for training, it can be applied effectively to learning after operations. In both cases, the AAR facilitator guides participants in identifying deficiencies and seeking solutions. This structured review process allows participants to discover for themselves what happened, why it happened, and how it can be done better. (See appendix B for ways to adapt the training AAR for use after operations.) The AAR is a professional discussion that requires participants' active participation. The AAR is not a critique. It has the following advantages over a critique:

- Focuses directly on key, operation-order-derived objectives.
- First addresses how well the unit accomplished the mission (measures of effectiveness); addresses meeting Army standards (measures of performance) only if failure to meet standards was a factor in mission failure or resulted in unnecessary losses.
- Encourages participants to discover important lessons themselves. (Using leading questions is one way to do this; see paragraph B-42.)
- Allows a large number of Soldiers and leaders to participate. More of the operation can be recalled. More perspectives, observations, insights, and lessons can be shared.

***Lessons Learned Development***

3-68. Lessons learned are validated knowledge and experience derived from observations and the historical study of military training, exercises, and combat operations that leads to a change in behavior at either the tactical, operational, or strategic level or in one or more of the Army's doctrine, organization, training, materiel, leadership and education, personnel, and facilities domains. The organization may conduct its own program for developing lessons learned, or it may use a collection and analysis team from the Center for Army Lessons Learned (CALL).

3-69. Units use KM practices to incorporate knowledge gained during operations into its tactics, techniques, and procedures. This type of KM begins with collecting observations, insights, and lessons from operations. (The AAR is an important collection technique.) Leaders then assess these lessons, develop solutions to identified problems, and apply solutions to operations as appropriate. If the solutions succeed in improving performance, they constitute lessons learned. These may be organized locally as well as disseminated to Army organizations that can use them. In many cases, these lessons may be significant beyond just the unit that developed them. Commanders and other leaders, while assessing operations or at the conclusion of any AAR, may identify knowledge to share with the rest of the Army and incorporate into their own operations.

3-70. Conducting AARs and integrating lessons from those AARs into ongoing operations are command responsibilities. Units share their important or significant observations, insights, and lessons with the rest of the Army by sending them to CALL at Fort Leavenworth, Kansas. CALL shares this information with the Army through various electronic and paper products.

3-71. Although CALL has the lead to gather and disseminate lessons learned, it cannot cover every warfighting function or operation without help from commanders and units. Branch proponents work with deployed unit commanders to gather lessons in general and lessons about warfighting in particular. They make these available either as contributions to CALL's database and Web site or through their own Web sites and repositories.

**LEARNING TECHNIQUES**

3-72. Expertise based on firsthand experiences and insights drawn from tacit knowledge helps Soldiers capture and use complex, experience-based knowledge. When Soldiers cannot gain first-hand experience before operations, the KM section can assist in providing virtual conditions that simulate those experiences. Scenarios experienced through guided practice provide a mental framework to which Soldiers can relate experiences. These simulated experiences develop or build on existing experiences needed to acquire new and more complex knowledge. The simulated experiences created as a result of knowledge transfer in communities of practice, judgment exercises, and decisions are critical to helping Soldiers retain the knowledge.

3-73. The following discussion addresses examples of learning techniques (virtual right-seat ride, storytelling, and experiential learning) that have proven successful in enabling learning before, during, and after operations. Leaders use the technique that best helps Soldiers master the knowledge being transferred.

**Virtual Right-Seat Ride**

3-74. The virtual right-seat ride is a technique that uses collaborative tools to allow geographically separated Soldiers and units to interact and learn. Soldiers use the virtual right-seat ride to work with deployed forces to learn the duties they will assume on deployment. This technique allows commanders and staffs to interact with deployed counterparts throughout all Army force generation phases. The interaction occurs in real or near real-time. That makes for faster knowledge transfer. It also gives recipients greater confidence in the knowledge's validity. Leaders can then tailor their pre-deployment training to the anticipated mission and operational environment. This helps them accelerate deployment preparation.

3-75. The virtual right-seat ride can be enabled by tools from Army professional forums. Other tools include information system components, networked and embedded training, video or voice teleconferences,

and other Web-based applications. A virtual right-seat ride can include several subordinate techniques. Table 3-3 lists some examples.

**Table 3-3. Virtual right-seat ride techniques**

<p>Establish an online collaborative environment to facilitate the following forms of knowledge transfer:</p> <ul style="list-style-type: none"> <li>• Learning situational awareness and shared understanding, latest insights, and current best practices.</li> <li>• Understanding culture and organization in the projected area of operations.</li> <li>• Learning about the next two higher echelons' plans.</li> <li>• Monitoring deployed units' operations.</li> <li>• Conducting personal discussions via secure net, secure phone, and secure video teleconferencing.</li> </ul> <p>Practice team-peer assists on issues critical for mission success.</p> <p>Perform the following tasks based on actual situations in the projected area of operations:</p> <ul style="list-style-type: none"> <li>• Build a codified knowledge base by transferring relevant content from the deployed unit to the preparing unit.</li> <li>• Practice performing the military decisionmaking process.</li> <li>• Rehearse battle synchronization.</li> <li>• Rehearse staff battle drills.</li> <li>• Conduct tactical decision exercises.</li> <li>• Complete simulation and master-event-list simulated exercises and vignettes.</li> <li>• Build relevant expertise through networked games and digital stories.</li> </ul> <p>Facilitate warfare, leadership, learning organization seminars, and workshops.</p> <p>Create knowledge about the friendly forces and civil considerations in the area of operations, including topics such as the following:</p> <ul style="list-style-type: none"> <li>• Civil-military relations.</li> <li>• Family, community, and tribal information.</li> <li>• Security force information.</li> </ul> <p>Refine standing operating procedures based on a command post exercise using the deployed partner organization's common operational picture and orders.</p>
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3-76. Virtual right-seat rides have several benefits. They can—

- Build virtual experience that contributes to Soldiers' ability to make intuitive decisions. (ADP 6-0 discusses intuitive decisionmaking.)
- Help leaders resolve tactical problems, using reach-back resources.
- Transfer experiences and lessons.
- Shorten time required for a unit to be ready for operations upon arrival in the area of operations.
- Help Soldiers and units integrate knowledge about the projected area of operations.
- Develop knowledge that improves shared understanding from the moment a unit arrives in the area of operations.
- Improve performance during rotation into and out of the area of operations.

The vignette on page 3-16 provides an example of a virtual right-seat ride.

### **Virtual Right-Seat Ride**

When the 3rd Brigade Combat Team (Stryker), 2nd Infantry Division, deployed to combat in Iraq, two things quickly became apparent. First, existing communications solidly connected the battle command training center facilities at Fort Lewis, Washington, with the 3rd Brigade in Iraq. Second, during the more than year-long preparation, strong personal relationships had developed between the training center staff and the brigade's Soldiers. Coupling robust technical communications and networking capabilities with strong personal relationships led to an unprecedented reach-back capability between Fort Lewis and its deployed brigade combat team.

Important information began to flow back to Fort Lewis from the 3rd Brigade. Communications media included the brigade's tactical Web page, personal classified e-mail messages, and secure video teleconferences and telephones. The information was analyzed and observations, insights, and lessons drawn based on the friendly and enemy tactics and techniques. This knowledge was immediately incorporated into the training of 1st Brigade Combat Team (Stryker), 25th Infantry Division, which was being formed at Fort Lewis.

As 1st Brigade neared deployment, its members began using battle command training center links to learn about their projected area of operations. The training center contractors facilitated communication between members of the 1st and 3rd Brigades. This interaction allowed the units to conduct staff training exercises based on actual, ongoing operations. When 1st Brigade deployed to replace 3rd Brigade, it was ready to conduct operations immediately. The commanding general of Multinational Corps–Iraq commented that 1st Brigade was the best prepared unit he had seen arrive in Iraq.

### **Storytelling**

3-77. Warriors have told stories of their exploits in battle since warfare began. The telling of these oral accounts served and continues to serve a number of functions in a warrior society. Storytelling in a KM context helps communicate complicated ideas, situations, and experiences. It helps Soldiers and units understand and recreate a mental framework for learning. Storytelling enables an organization to see itself differently, make decisions, and change behaviors in accordance with these new perceptions, insights and identities. Storytelling is a way to acquire expertise, turning tacit knowledge into explicit knowledge, through specific lessons learned, and thoughts and innovations that may have otherwise been lost.

3-78. Technology enables storytelling as learning opportunities in the form of simulations and digital stories. Stories place users in a setting and force them to confront situations that may otherwise come for the first time on a battlefield. Stories are turned into decision games and judgment exercises to improve shared understanding.

### **Experiential Learning**

3-79. Experiential learning is learning through action. Trainers, coaches, and mentors engage with learners in direct experience and focused reflection to increase knowledge and develop cognitive skills.

3-80. Experiential learning uses various tools: among them, decision games, simulations, role playing, and stories. It develops Soldiers' judgment by placing them in situations likely to be encountered during operations. Experiential learning is not training in that it does not develop an automatic response to a given situation; more often, it is used to develop the cognitive skills required for how to think about a situation and solve problems. Experiential learning places Soldiers at the center of the learning.

3-81. Unit leaders become coaches and facilitators. They connect Soldiers as learners with ideas, content, and expertise. Learners develop deep understanding and a capacity for learning new concepts through guided, deliberate practice.

3-82. The following vignette illustrates how the knowledge management section, information management personnel, and the leaders and Soldiers of a combined joint task force engaged in combat operations collaborated to solve a problem and arrive at a KM solution. It illustrates every step of the KM process—assess, design, develop, pilot, and implement.

### **Knowledge Management in Afghanistan**

This vignette describes how knowledge management techniques improved the operations of Combined Joint Task Force 76 in Afghanistan in 2006. The commanding general had stated the following information requirement: “I want to know how many missions over the last 30 days were conducted by the 3rd Brigade Combat Team and how many utilized aviation assets.” Answering this question required the staff to manually search multiple personal folder storage (PST) files and call subordinate units. Answers using these procedures were often neither exact nor timely. To answer this recurring information requirement as well as others, the task force needed a faster, more accurate process.

The task force KM officer and information dissemination management-tactical (IDM-T) contractor examined the procedures used to synchronize planning efforts and coordinate mission briefs. (IDM-T was the task force’s main information management tool.) Their assessment documented the following:

- Each subordinate unit had its own technique for tracking operations; most used static spreadsheets.
- Once a mission was received, task force and subordinate staff sections began parallel planning. For example, the sections synchronized intelligence operations assets (such as human intelligence collectors) and fires assets (including artillery and close air support).
- Staff sections frequently synchronized assets without the approval or knowledge of the task force chief of operations. This was a major problem, since the chief of operations was responsible for controlling all task force assets.
- When preparing situation briefs for general officers, current operations personnel from multiple staff sections lacked visibility of the overall operation.
- Access to draft operation orders was a problem when the staff tried to gather data in response to information requirements.
- No centralized repository existed for information about operations. Answers to information requirements existed in individual e-mail messages only. Subordinate units e-mailed electronic slide presentations to the chief of operations. The chief of operations forwarded them to appropriate staff sections and stored the presentations in personal folder storage files. These files contained well over four gigabytes of data.

The KM officer and IDM-T contractor developed an initial solution that reduced the time required to locate specific information to 30 seconds. The solution consisted of centralizing storage of status presentations and establishing a single format for entering report information. An IDM-T page for status briefings was posted on the task force IDM-T portal. It consisted of a centralized document library with controlled access. The KM section designed a customized data entry template to capture either the appropriate information or information that described that resource or data set. Standardizing the data used to identify status presentations increased search speed and reduced the amount of unusable information produced by searches. This reporting template allowed staff members to answer information requirements by entering information into the IDM-T database instead of sending e-mail messages. Entering data into a shared database in a standard format facilitated its processing into knowledge expressed in the form of a standard report. The database made the most current information available to the force as whole. This reduced the time

required to answer the commander's information requirements. It also helped the task force staff and subordinate staffs synchronize operations by providing a single source of information about assets and employment on missions.

Effective KM significantly improved task force operations. Originally, answering information requirements regarding mission status took 40 hours and involved coordinating manual searches by six subordinate units. The new procedures and supporting software reduced search time to less than a minute and increased the information's accuracy. The revised processes also-

- Provided a secure, real-time, collaborative information-sharing environment.
- Facilitated decisions by making relevant information available to the right person at the right time.
- Standardized an inconsistent and labor-intensive process.
- Provided quick, reliable, and relevant answers to the commanding general's information requirements.
- Developed an easily accessible, centralized database of past and ongoing task force operations searchable by criteria.

This vignette is based on interviews with the KM officer of Combined Joint Task Force 76 during Operation Enduring Freedom in Afghanistan. The initiative was undertaken from May through July 2006.

## **Appendix A**

# **Content Management**

Content management focuses on how content—in both digital and non-digital media—is managed throughout the five knowledge management process steps (assess, design, develop, pilot and implement). It differs from similar information management activities in that it concerns knowledge products rather than data or information. Effective content management provides users with immediate and secure access to trusted, relevant knowledge products. This appendix elaborates on the discussion of content management in chapter 3. It also contains content management techniques for individuals, teams, and organizations.

### **CONTENT MANAGEMENT DESIGN AND DEVELOPMENT TASKS**

A-1. Content management design includes determining where content is located, who created it or is responsible for updating or deleting it, the format (structured or unstructured), the file types (defined by their file extension), and who uses it for what purpose. Content managers conduct interviews with the commander, subordinate leadership, primary and special staff, noncommissioned officers, and functional area subject matter experts. Content managers determine what content must be created and managed on the SECRET Internet Protocol Router Network (SIPRNET). They use surveys, a detailed audit, or a content map to conduct the inventory. Table A-1 on page A-2 lists specific content management design and development tasks.

### **CONTENT MANAGEMENT IMPLEMENTATION TASKS**

A-2. Content management organizes information and knowledge products for storage and transfer. It also makes content more readily available for collaborative knowledge creation. Implementing content management involves the following four task areas: create, organize, apply, and transfer.

#### **CREATE**

A-3. Content management provides procedures for identifying content within newly created knowledge. It also facilitates collaboration by broadening file availability, making it easier to share knowledge files.

A-4. Knowledge products move through several stages during their life cycle. Initially, one or more authors create a knowledge product. Over time others may change that product's content. One or more individuals may provide oversight and approve the content for transfer or storage. Creation further includes submitting a product for approval or sending it to other agencies for adding to or revising its content. Some products' content is updated periodically.

A-5. A critical aspect of content management is managing versions of a product as the product evolves. Authors and contributors may need to return to older versions of products. This situation may occur due to a process failure or an undesirable series of changes. Effective content management procedures allow easy access to a product's previous versions while keeping them separate from the current version.

A-6. Input for products under development can be obtained in two ways: The product can be sent individually to others for review; or the product can be posted to a Web page and a group of people granted access to it.

A-7. Upon approval, the product is disseminated. Dissemination may take many forms. However, all of them fall into the same two categories mentioned in paragraph A-6. Products can be sent electronically or by some form of messenger or messenger service. Alternatively, the product can be stored on an information system and a group of people granted access to it.

**Table A-1. Content management design and development tasks**

Determine the essential sources of knowledge, including those located outside the unit. Identify content needed, when it is needed, the desired format, and how it must be made available for the unit to accomplish its mission.

Develop a taxonomy or structure for storing and managing content.

Determine where and how content will be created, organized, applied, and transferred.

Develop a process for organizing content so it can be discovered and managed throughout its life cycle. This includes adding identifying features within the content to allow discovery and retrieval by users, and tracking by managers.

- Determine who manages the documents.
- Determine what technology is available for management of content.
- Develop templates for storage and presentation of documents.
- Develop content management processes for internal management.
- Determine if the unit or organization will manage and identify their documents.
- Determine roles and access rights for content.

Determine workflow for content.

- Determine if documents are needed by a larger audience.
- Send appropriate documents to the information system for conversion to other mark-up languages that support wider dissemination.
- Determine if the unit or organization needs different mark-up language capabilities.
- Tag products to facilitate discovery.
- Determine a timetable for content validity.
- Standardize content as much as possible. Use templates to ensure all data are entered properly.

Confirm control measures for physical security, operations security, classified documents, and dissemination with the operations security officer.

## ORGANIZE

A-8. Organizing includes archiving, labeling, and identifying:

- Archiving consists of moving outdated and irrelevant knowledge from active status to an inactive status, based on rules and policies.
- Labeling takes content that is no longer relevant, archives it, and keeps it separate from current knowledge products.
- Identifying involves determining whether to archive or dispose of content. Subject matter experts do this by reviewing content that exceeds a specified date or does not meet usage benchmarks. Based on this review, they determine whether regulations require retaining the content, or if it can be destroyed.

A-9. The disposition of electronic records is determined as early as possible in the life cycle of the knowledge process. (Preserve information contained in any organizational information system, e-mail, command-specific systems, and systems maintained in an organizational office environment as specified in ARs 25-1 and 25-400-2.)

## APPLY

A-10. Making content accessible, through knowledge strategies, is the primary purpose of content management. These content management tasks focus on the ability to publish the content to a repository and support access to it by staff members needing it for use. By identifying content for ease of retrieval by multiple users, content management further allows collaboration.

A-11. To assist the staff, the KM section could adjust the KM architecture to identify the commander's critical information requirements for a specific operation. They might also develop specific social networks focused on answering specific requirements.

## TRANSFER

A-12. Transferring relevant information to those who need it, based on an analysis of the commander's critical information requirements and other information requirements, is a major content management task. The KM section constantly examines unit information requirements, actively searches out answers, and sends them to users. The section incorporates search and retrieval beyond the immediate unit. It organizes this content in a repository that allows more effective and efficient transfer of knowledge.

A-13. Content is organized or modified in a manner amenable for transfer and effective application. In operations, content management focuses primarily on organizing knowledge to answer information requirements. KM section members identify requirements, make adjustments as needed to knowledge products that answer them, and transfer the content to requesters.

## CONTENT MANAGEMENT TERMS

A-14. A repository is a central place or known location where data is stored and maintained. It does not necessarily have to be a single location, but it provides access to all data. Before computers were developed, repositories were file cabinets or desks.

A-15. A taxonomy is a system of describing, categorizing, and naming data, and placing it in categories to allow retrieval by users. It is a guiding structure or framework that organizes knowledge into meaningful groups while establishing context-sensible relationships between them. The most common methods of arranging the data are by subject or format. A taxonomy may be thought of as a table of contents.

A-16. Metadata is generally defined as "data about data." In content management, it is "information about objects." (Object types include documents, images, and other information or knowledge products.) If no metadata capability is available, users can still share the information. The information can be placed in folders, or there can be a plan for how to share the information.

A-17. A metric is a parameter or measure for quantitative and periodic assessment of a process. Assessments can be either direct or indirect. Direct assessments measure the actual metrics. Indirect assessments measure indicators. The most important characteristic of a KM metric is whether it can tell how effectively the knowledge is contributing to understanding and decisionmaking. A secondary one is whether knowledge is being shared or used.

A-18. The evolutionary life cycle describes the posting, dissemination, and archiving of knowledge. Basically, all knowledge goes through a life cycle similar to the following: placing knowledge so people can use it, disseminating knowledge to those who need it, archiving knowledge for future reference, and destroying or removing knowledge products when they no longer apply.

## CONTENT MANAGEMENT PRINCIPLES

A-19. The following principles represent the most important factors affecting effective content management. They are not a checklist. Rather, they summarize the characteristics of successful content management efforts. Content managers consider them in all situations; however, the principles apply differently, based on the factors present.

### MAKE KNOWLEDGE PRODUCTS VISIBLE

A-20. Establish a repository where cleared users have easy access to knowledge products. Post a product before processing it when there is a need for immediate dissemination or access to the data asset. If a piece of information is critical to mission accomplishment or is time sensitive, post it first and assign it to a category later. Pass information that answers a commander's critical information requirement to the commander immediately. Make sure the information is reliable. Do not post rumors or speculation.

A-21. Create and maintain data asset catalogs that are searchable by user-friendly applications. Make sure the information is easy to find, regardless of where it is stored. Do not bury information where Soldiers have to search randomly for it. Time is precious during operations.

A-22. Conduct a data asset inventory to identify and prioritize data assets that support the unit's mission and near-term initiatives. Have a way to highlight items that are most important to the mission. For example, the content manager should highlight knowledge products from past operations containing information that might pertain to upcoming operations.

### **MAKE KNOWLEDGE PRODUCTS ACCESSIBLE**

A-23. Balance accessibility with providing security. An area that provides security must also allow access to those who need the information. Most organizations have a public and a private Web site. Much of what the KM section provides relates to operations and needs to be protected on the private site.

A-24. User roles and data asset categorization, dissemination controls, and rights ensure proper access. Protect the repository behind a log-in firewall instead of posting information to a public site.

A-25. Consider the effects of file size and type of each data asset. Work with information technology personnel to ensure the programs can handle the objects being stored. Ensure the shared server is adequate.

### **MAKE KNOWLEDGE PRODUCTS UNDERSTANDABLE**

A-26. Use a taxonomy for shared knowledge that makes sense to Soldiers. Soldiers will not take the time to search through a site they do not understand. Employ common terms when determining product categories. Try to use doctrinal language. Make sure the taxonomy is easy to read, so Soldiers can get the information they need. The effect of site design on users may be compared to shopping for a power tool. If shoppers see the instructions for using the product as too complicated, they will not buy it. Understandable format is key to a usable data asset.

### **MAKE KNOWLEDGE PRODUCTS RELIABLE**

A-27. Reliability depends in part on information assurance. The repository should provide secure storage while allowing access by authorized users with a user name and password. Secure storage protects products from being corrupted by electronic attack. It also reduces the chance of compromising classified information.

A-28. Assign source data to each data asset in the repository. Source data includes the author or publisher, contributors, date created, and date the asset expires or is no longer valid. Tag items to verify trustworthiness. Complete source data gives readers confidence in the product's accuracy. Ensure only current or valid products are accessible.

A-29. Assign a security classification, dissemination controls, and rights (privacy, intellectual property and copyright) to each data asset in the repository. Do not post copyrighted materials. Obtaining copyright releases during operations is too hard to be worth the trouble.

### **SUPPORT DATA INTEROPERABILITY**

A-30. Determine the level of standardization of knowledge products required to support searches by a variety of users. Soldiers must be able to access knowledge products. Units should be able to obtain access with the search engine they have available.

### **BE RESPONSIVE TO SOLDIERS**

A-31. Provide secure, Web-enabled access to users regardless of their location and available bandwidth. Allow Soldiers to search, discover, and retrieve data assets no matter where the repositories are. Develop processes to match user needs to repository content. Categorizing objects aids in achieving this principle.

A-32. Establish metrics to track user behavior, identify trends, and improve service quality. Develop means to monitor how and to what extent knowledge is being transferred. For example, monitor hits on a site, feedback, and participation in discussions.

A-33. Provide a feedback mechanism to involve users in improving the knowledge strategy. Techniques include periodic surveys, feedback forms, after action reviews, and engaging Soldiers directly.

## CONTENT MANAGEMENT TECHNIQUES

A-34. Tables A-2 through A-4 list content management techniques for individuals, teams, and organizations.

**Table A-2. Content management techniques for individuals**

- Use only Army storage and backup services on your respective networks.
- Compile a point of contact list.
- Master user techniques for unit approved Web-based groupware, email, mailing lists, word processor, spreadsheets or presentation applications.
- Design a personal file structure using a simple taxonomy that is consistent with team or organization taxonomy. Create files and a folder on every task, project, or topic on the user's primary digital device (desktop).
- Take relevant written notes. Share your analysis of meetings with teammates and encourage them to do the same. Capture the "so what?"
- Develop personal learning objectives for every meeting or conference; maximize the use of seven-minute drills and quad-charts describing the objectives.
- Build smart books, such as continuity books, for tasks. Publish them to your team's collaborative workspace.
- Develop descriptions and checklists for each duty.
- Send e-mail with links to internal portal storage location or folders and Web sites and personal folders.
- Do not send e-mails with attached documents.

**Table A-3. Content management techniques for teams**

- Follow meeting management practices.
- Compile a team, unit, or group point of contact list.
- Incorporate a meeting review into all meetings. At the beginning of every meeting, state that someone will be asked to give the five-minute review or summary of the meeting at its end.
- Develop a file structure taxonomy. Create files and a folder on every task, project, or topic on the primary team or unit portal (SharePoint, intranet).
- Develop content management processes and roles. Record them in content management annex of the knowledge management plan and conduct training to teach them to the entire team.
- Determine who tracks where everything is stored and record who is responsible for managing a shared space.
- Develop templates for various teams, military occupational specialties, or units.
- Create templates (in an electronic environment) or forms (in a paper-based environment) for reports and other recurring information requirements.
- Use information management software tools and capabilities to organize and integrate tasks and groups.

**Table A-4. Content management techniques for organizations**

- Develop a standard operating procedure (SOP) and best practices to standardize all techniques for individuals and teams.
- Establish a network of knowledge management representatives (KMRs) to manage section content.
- Use content management mark-up language conversion tools or similar metadata tagging techniques and tools to identify and manage content.
- Determine content validity timelines.

## **CONTENT MANAGEMENT SYSTEMS**

A-35. Content management systems are the collection of procedures used to manage work flow in a collaborative environment, typically using Army standardized and approved digital systems or software. The U.S. Army and Department of Defense (DOD) currently use a content management system to meet mission requirements. Hosted on garrison network or on the unit's server, this system's portal services are also provided for asynchronous collaboration, managing business and operational processes, and leveraging business tools for data analysis. This system provides interoperability services, including publish and subscribe service and data dissemination service. The server also supports joint convergence with the United States Marine Corps by providing a data exchange gateway that allows the direct exchange of common operational picture data between the joint services.

## **Appendix B**

# **After Action Reviews**

This appendix discusses how to modify the after action review for use as a learning technique after executing operations. Commanders modify these steps as necessary to fit the available time.

### **GENERAL**

B-1. FM 7-0 describes after action reviews (AARs) as an integral part of unit training. Leaders can use AARs not only for training situations, but also for operations. Chapter 3 of this FM discusses the AAR as an important technique for learning after operations as part of the “implement” step of the KM process. However, leaders can employ the AAR during pauses in the action, as individual missions are completed, or after phases of the operation as time permits, enabling units to also learn during operations. Two types of AARs exist: formal and informal. Normally, only informal AARs are possible during the execution of operations. Commanders normally conduct formal AARs after completing a mission.

B-2. Leaders plan formal AARs when they complete an operation or otherwise realize they have the requirement, time, and resources available to conduct an AAR. Formal AARs require more planning and preparation than informal AARs. They require site reconnaissance and selection; coordination for aids (such as terrain models and large-scale maps); and selection, setup, and maintenance of the AAR site. During formal AARs, the AAR facilitator (unit leader or other facilitator) provides an overview of the operation and focuses the discussion on topics the AAR plan identifies. (See paragraphs B-11 through B-18.) At the end, the facilitator reviews key points and issues and summarizes strengths and weaknesses identified and discussed.

B-3. Leaders use informal AARs as on-the-spot coaching tools while reviewing Soldier and unit performance during or immediately after execution. Informal AARs are extremely important, as they involve all Soldiers. Those AARs provide immediate feedback to Soldiers, leaders, and units after execution. Ideas and solutions leaders gathered during informal AARs can be applied immediately as the unit continues operations. Successful solutions can be identified and transferred as lessons learned.

B-4. AARs during operations include the same four parts as AARs during training:

- Review what was supposed to happen. The facilitator, along with the participants, reviews what was supposed to happen. This review is based on the commander’s intent for the operation, unit operation or fragmentary orders, the mission, and the concept of operations.
- Establish what happened. The facilitator and participants determine to the extent possible what actually happened during execution. Unit records and reports form the basis of this determination. An account describing actual events as closely as possible is vital to an effective discussion. The G-2/S-2 provides input about the operation from the enemy’s perspective.
- Determine what was right or wrong with what happened. Participants establish the strong and weak points of their performance. The facilitator guides discussions so conclusions participants reach are operationally sound, consistent with Army standards, and relevant to the operational environment.
- Determine how the task should be done differently next time. The facilitator helps the chain of command lead the group in determining how participants might perform the task more effectively. The intended result is organizational and individual learning that can be applied to future operations. If successful, this learning can be disseminated as lessons learned.

B-5. Leaders understand that not all tasks will be performed to standard. In their initial planning, they allocate time and other resources for retraining after execution or before the next operation. Retraining allows participants to apply the lessons from AARs and implement corrective actions. Retraining should be

conducted at the earliest opportunity to translate observations and evaluations from AARs into performance in operations. Commanders ensure Soldiers understand that training is incomplete until the identified corrections in performance have been achieved. Successful lessons can be identified as lessons learned and disseminated.

B-6. AARs are often tiered as a multi-echelon leader development technique. Following a session involving all participants, senior commanders may continue the AAR with selected leaders as an extended professional discussion. These discussions usually include a more specific review of leader contributions to the operation's results. Commanders use this opportunity to help subordinate leaders master current skills and prepare them for future responsibilities. AARs are opportunities for knowledge transfer via teaching, coaching, and mentoring.

B-7. Commanders conduct a final AAR during recovery after an operation. This AAR may include a facilitator. Unit leaders review the operation and discuss its overall conduct. Weaknesses or shortcomings identified during earlier AARs are identified and discussed. If time permits, the unit conducts training to correct these weaknesses or shortcomings in preparation for future operations.

B-8. Lessons can be disseminated in at least three ways. First, participants may make notes to use in retraining themselves and their sections or units. Second, facilitators may gather their own and participants' notes for collation and analysis before dissemination and storage for others to use. (The Center for Army Lessons Learned can provide trained facilitators.) Dissemination includes forwarding lessons to other units conducting similar operations as well as to doctrinal proponents and generating force agencies. Third, units should publicize future successful applications of lessons as lessons learned.

## **PLANNING, PREPARING, AND EXECUTING AFTER ACTION REVIEWS**

B-9. Effective AARs require planning and preparation. During planning for an operation, commanders allocate time and resources for conducting AARs and assign responsibilities for them. The amount and level of detail needed during planning and preparation depends on the type of AAR and the resources available. The AAR process has four steps:

- Step 1—Plan.
- Step 2—Prepare.
- Step 3—Execute.
- Step 4—Follow-up (using AAR results).

B-10. AARs during operations differ from those during training in the lack of observer controllers or observer trainers. During operations, there are no dedicated collectors for data and observations. Instead, assessments of the operation's progress generated by the unit form the basis for the AAR.

### **PLANNING AFTER ACTION REVIEWS**

B-11. An AAR plan provides the foundation for a successful AAR. Commanders develop a plan for each AAR as time allows. The plan specifies—

- Who will provide information and who will conduct the AAR.
- Aspects of the operation the AAR should evaluate.
- Who will attend the AAR.
- When and where the AAR will occur.
- Aids to be used for the AAR.

B-12. Commanders or facilitators use the AAR plan to identify critical places and events that must be covered to provide a useful AAR. Examples include the decisive operation, critical transitions, and essential tasks. The AAR plan also includes who will address each event.

B-13. Commanders specify what they want to accomplish with the AAR and what the AAR will address. The operation order and Army Universal Task List may provide tasks and conditions. Measures of

effectiveness and some measures of performance are extracted from the order. The Army Universal Task List contains measures of performance.

B-14. Copies of the operation order and daily journal are given to the senior facilitator. The senior facilitator distributes these to AAR facilitation team members. Team members review and use them to identify critical events and times for discussion during the AAR.

### **Scheduling After Action Reviews**

B-15. Commanders plan for an AAR at the end of each operation whenever possible. Platoon-level AARs require 30 to 45 minutes, company-level require one hour, and battalion-level and above require more than two hours. Quality AARs help Soldiers receive better feedback on their performance and remember the lessons longer.

### **Determining Who Will Attend**

B-16. The AAR plan specifies who the commander wants to attend the AAR. At each echelon, an AAR has a primary set of participants. At squad and platoon levels, all Soldiers should attend and participate. At company and higher levels, it may not be practical to have everyone attend because of operations or training. In this case, unit commanders, other unit leaders, and other key players may be the only participants. Facilitators may recommend additional participants, based on their observations.

### **Choosing After Action Review Aids**

B-17. Appropriate aids add to an AAR's effectiveness; however, use an aid only if it makes the AAR better. Aids should promote learning and directly support discussion of the operation. Dry-erase boards, video equipment, terrain models, enlarged maps, and unit information systems are all worthwhile under the right conditions. Terrain visibility, group size, suitability to task, and availability of electric power are all considerations when selecting AAR aids.

### **Preparing the After Action Review Plan**

B-18. The AAR plan is only a guide. Commanders and facilitators should review it regularly to make sure it still applies and meets the unit's needs. The plan may be adjusted as necessary, but changes take preparation and planning time away from facilitators and leaders. The AAR plan allows facilitators and leaders as much time as possible to prepare.

## **PREPARING FOR AFTER ACTION REVIEWS**

B-19. Preparation is key to effectively executing any plan. Facilitators begin to prepare for an AAR before the operation and continue preparations until the actual event. Facilitators announce to unit leaders the starting time and location as soon as possible after these are set. This lets unit leaders account for personnel and equipment, perform post-operation actions, and move to the AAR site while facilitators are preparing and rehearsing.

### **Reviewing Objectives, Orders, Plans, and Doctrine**

B-20. Facilitators review the unit's mission before the AAR. The mission's objectives form the AAR's focus and the basis for observations. Facilitators review current doctrine, technical information, and applicable unit standard operating procedures to ensure they have the tools needed to properly guide discussion of unit and individual performance. Facilitators read and understand all warning, operation, and fragmentary orders issued before and during execution to understand what the commander wanted to happen. The detailed knowledge that facilitators display as a result of these reviews gives added credibility to their comments.

### **Identifying Key Events**

B-21. Facilitators identify critical events and ensure they collect data on those events or identify personnel who observed them. Examples of critical events include—

- Issuance of operation and fragmentary orders.
- Selected planning steps.
- Contact with opposing forces.
- Civil security attacks during stability operations.
- Passages of lines and reliefs in place.

### **Collecting Observations**

B-22. Facilitators need a complete picture of what happened during the operation to conduct an effective AAR. Each facilitator for subordinate, supporting, and adjacent units provides the senior facilitator with a comprehensive review of collected data on their organizations and the impact those units had on the unit accomplishing its mission.

B-23. The senior facilitator receives input on the enemy from the G-2/S-2. The enemy's perspective is critical to identifying why a unit succeeded or not. During formal AARs, the G-2/S-2 briefs what is known of the enemy's plan and intent to set the stage for discussing what happened and why it happened. Obtaining this data after operations is extremely difficult; therefore, these observations often are treated as assumptions rather than facts.

B-24. During their review, facilitators accurately record what they learn about events by time sequence to avoid losing valuable information and feedback. Facilitators use any recording system that is reliable (notebooks and laptops, among others), sufficiently detailed (identifying times, places, and names), and consistent.

B-25. Facilitators include the date-time group of each observation so it can be easily integrated with other facilitators' observations. This practice provides a comprehensive and detailed overview of what happened. When facilitators have enough time, they review their notes and fill in any details not written down earlier.

B-26. One of the most difficult facilitator tasks is determining when and where to obtain information about the operation or the aspects of it selected for the AAR. Facilitators remain professional, courteous, and low-key at all times.

### **Organizing the After Action Review**

B-27. Once facilitators have gathered all available information, they organize their notes chronologically to understand the flow of events. They select and sequence key events in terms of their relevance to the unit's mission and objectives. This helps them identify key discussion and teaching points.

B-28. An effective AAR leads participants to discover strengths and weaknesses, propose solutions, and adopt a course of action to improve future operations. Facilitators organize an AAR using one of three techniques: chronological order of events; warfighting functions; or key events, themes, or issues.

#### ***Chronological Order of Events***

B-29. A chronological order of events is logical, structured, and easy to understand. It follows the flow of the operation from start to finish. Covering actions in the order they occurred helps Soldiers and leaders better recall what happened. This technique usually cannot cover all actions, only critical events.

#### ***Warfighting Functions***

B-30. An AAR using this technique discusses the operation in terms of how each warfighting function contributed to the operation across all its phases. The warfighting functions technique is good for identifying systemic strengths and weaknesses. It is useful also for staff sections' learning.

#### ***Key Events, Themes, or Issues***

B-31. This technique focuses the discussion on critical operational events that directly support achieving the AAR's objectives. This technique works well when time is limited.

## Selecting After Action Review Sites

B-32. AARs should occur at or near where the operation occurred. Leaders should identify and inspect the AAR site and prepare a diagram showing placement of aids and other equipment. A good site minimizes wasted time by allowing rapid assembly of key personnel and positioning of aids. For larger units, this might not be possible for the whole operation. However, higher echelon AARs may include visits to selected actual sites to provide learning opportunities.

B-33. The AAR site should let Soldiers see the terrain where the operation occurred or accurate representations of it. If this is not possible, facilitators find a location that allows Soldiers to see where the critical or most significant actions happened. Facilitators should have a map or other representation of the area of operations detailed enough to help everyone relate key events to the actual terrain. The representation may be a terrain model, enlarged map, or sketch. Facilitators also require a copy of the unit's graphics or recovered displays of the situation from the information systems databases.

B-34. Facilitators provide a comfortable setting for participants by encouraging Soldiers to remove helmets, providing shelter, and serving refreshments. These actions create an environment where participants can focus on the AAR without distractions. Participants should not face into the sun. Key leaders should have seats up front. Vehicle parking and equipment security areas should be far enough away from the AAR site to prevent distractions.

## Rehearsing

B-35. After thorough preparation, the facilitator reviews the agenda and prepares to conduct the AAR.

## EXECUTING AFTER ACTION REVIEWS

B-36. Facilitators start an AAR by reviewing its purpose and sequence: the ground rules, the objectives, and a summary of the operation that emphasizes the functions or events to be covered. This ensures that everyone present understands what the commander expects the AAR to accomplish.

### Introduction and Rules

B-37. The following rules apply to all AARs. Facilitators emphasize them in their introduction.

- An AAR is a dynamic, candid, professional discussion that focuses on unit performance. Everyone with an insight, observation, or question participates. Total participation is necessary to maintain strengths and identify and correct deficiencies.
- An AAR is not a critique. No one—regardless of rank, position, or strength of personality—has all the information or answers. AARs maximize learning benefits by allowing Soldiers to learn from each other.
- An AAR assesses weaknesses to improve and strengths to sustain.

B-38. Soldier participation is directly related to the atmosphere created during the introduction. Effective facilitators draw in Soldiers who seem reluctant to participate. The following techniques can help create an atmosphere conducive to maximum participation:

- Reinforce the idea that it is permissible to disagree.
- Focus on learning, and encourage Soldiers to give honest opinions.
- Use open-ended and leading questions to guide the discussion.
- Facilitators enter the discussion only when necessary.

### Review of Objectives and Intent

B-39. After the introduction, facilitators review the AAR's objectives. This review includes the following:

- A restatement of the events, themes, or issues being reviewed.
- The mission and commander's intent (what was supposed to happen).
- The enemy's mission and intent (how the enemy tried to defeat the force).

B-40. The commander or a facilitator restates the mission and commander's intent. Facilitators may guide the discussion to ensure that everyone present understands the plan and intent. Another technique is to have subordinate leaders restate the mission and discuss the commander's intent. Automated information systems, maps, operational graphics, terrain boards, and other aids can help portray this information.

B-41. Intelligence personnel then explain as much of the enemy plan and actions as they know. The same aids the friendly force commander used can help participants understand how the plans related to each other.

### **Summary of Events (What Happened)**

B-42. The facilitator guides the review, using one of the techniques in paragraphs B-29 through B-31 to describe and discuss what actually happened. Facilitators avoid asking yes-or-no questions. They encourage participation and guide the discussion by using open-ended and leading questions. Open-ended questions allow those answering to reply based on what they think is significant. These questions are less likely to put Soldiers on the defensive. Open-ended questions work more effectively in finding out what happened. (The examples of open-ended questions and things to avoid during interviews listed in table C-1 on page C-1 and table C-2 on page C-2 also apply to AARs.)

B-43. As the discussion expands and more Soldiers add their perspectives, what really happened becomes clearer. Facilitators do not tell Soldiers and leaders what was good or bad. Instead, they ensure that the discussion reveals the important issues, both positive and negative. Skillful guiding of the discussion ensures that participants do not gloss over mistakes or weaknesses.

### **Closing Comments (Summary)**

B-44. During the summary, facilitators review and summarize key points identified during the discussion. The AAR should end on a positive note, linking conclusions to learning and possible training. Facilitators then depart to allow unit leaders and Soldiers time to discuss the learning in private.

## **BENEFITS OF AFTER ACTION REVIEWS**

B-45. AARs are the dynamic link between task performance and execution to standard. Through the professional, candid discussion of events, Soldiers can identify what went right and what went wrong during the operation (using measures of effectiveness). When appropriate, they can evaluate their performance of tasks (using measures of performance). The discussion helps Soldiers and leaders identify specific ways to improve unit proficiency. Units achieve the benefits of AARs by applying their results. Applications may include organizing observations, insights, and lessons; revising how the unit executes tactics, techniques, and procedures; and developing future training. AARs may reveal problems with unit standing operating procedures. If so, unit leaders revise the procedures and ensure that the unit implements the changes during future operations. Leaders can use the knowledge AARs develop to assess performance, correct deficiencies, and sustain demonstrated task proficiency. These improvements will enhance unit performance in future operations.

## Appendix C

# Interviewing Techniques

Effective interviewing techniques are essential to identifying valid lessons after operations when circumstances do not permit an after action review. This appendix provides interviewing techniques to use in these situations.

### PURPOSE

C-1. The purpose of a combat leader interview is to interview individuals in order to capture and preserve their spoken perspectives, judgments, and recollections before, during, or after a select activity or event. The goal is to share those lessons back to teams and communities that can best benefit from those observations.

### ROLE OF THE INTERVIEWER

C-2. Interviewers have a dual responsibility—first to interviewees, and second to the ultimate audience. Interviewers able to fulfill these responsibilities have the following characteristics:

- Experience.
- Knowledge of the organization.
- Analytic skills.
- Ability to listen.

C-3. To those being interviewed an interviewer owes trust and respect. Interviewers look for the secrets of each Soldier's success and what each Soldier has learned from his or her mistakes. Gaining this information requires gaining the Soldier's trust. Gaining that trust begins with showing the Soldier respect.

C-4. Often, the issues uppermost in an interviewee's mind differ from the ones with the greatest learning potential. Interviewers often need to probe to some degree. Effective interviewers look on interviews as voyages of discovery for the interviewer and Soldier. Productive interviews are more than just a "brain dump;" they are a sharing of intense experiences that can lead to significant lessons that may save Soldiers' lives and lead to more effective operations.

C-5. Interviewers owe their superiors and prospective audiences information that is relevant, accurate, and in context. Meeting this obligation begins with thorough preparation. Before the interview, interviewers determine the information they need to obtain and the particular issues the commander or their superiors want to learn about. Obtaining the information they need also requires interviewers to maintain control of the conversation throughout the interview. To do this, interviewers ask questions and manage the conversation so that useful answers emerge. Interviewers strike a balance between a free-ranging conversation and a narrow focus on specific subjects. (Table C-1 lists examples of questions interviewers may use to do this. Table C-2 on page C-2 lists some things to avoid.)

**Table C-1. Example interview questions**

Why do you think you were so successful? What would be your most important pieces of advice for the next person facing this challenge? What was the missing area of process that caused that problem to occur? What did you put in place to ensure success? What makes you say that? How did you achieve that? Why? What were the reasons for...?
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**Table C-2. Things to avoid when interviewing**

Don't send the interviewee a list of questions beforehand; send a list of topics instead.  
Don't settle for woolly or vague answers, such as, "You have to allow enough time for planning." Instead, look for specifics: for example, "How much time do you think you needed for planning?"  
Don't ask closed questions, such as, "Was it a success?" Instead, ask open questions, such as, "What made it a success?"

## THE INTERVIEW

C-6. An interview is more than a one-time conversation. Each interview is a project that includes the following steps:

- Prepare for the interview.
- Conduct and record the interview.
- Transcribe the interview.
- Send the raw transcript to the interviewee. Ask questions similar to these:
  - "Can you check that I have recorded your words correctly?"
  - "Is there anything you would like to change at this stage?"
- Refine transcript, distill it, and package the result.
- Send the result back to the interviewee. Ask the Soldier to check it to ensure that his or her opinions are presented correctly.
- Submit the final results to the directing authority for incorporation into a report or for publication.

C-7. Table C-3 contains some tips on how to produce a useful interview product.

**Table C-3. Tips for a successful interview**

Record the interview—tape, video, shorthand, or type very fast. Revising the transcript can take two to five times as long as the interview itself.  
Use direct quotes wherever possible.  
Pictures have tremendous value. Take a photograph of the interviewee.  
A short audio or video summary by the interviewee adds a lot to a Web site or compact disc.  
For a crucial interview, use an assistant.

## Appendix D

# Knowledge Management Annex Q Format

A knowledge management annex is included in operation plans and orders for brigade or higher units assigned an area of operation. Annex Q, knowledge management, provides guidance on how to share, integrate, and enable effective decisionmaking in order to provide an operational advantage in the conduct of actions in accordance with commander's intent, priorities, and concept of the operation. Staffs use a spare annex designation for the knowledge management annex as explained in ATTP 5-0.1.

<b>[CLASSIFICATION]</b>
<i>Place the classification at the top and bottom of every page of the attachments. Place the classification marking (TS), (S), (C), or (U) at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.</i>
<b>Copy ## of ## copies</b> <b>Issuing headquarters</b> <b>Place of issue</b> <b>Date-time group of signature</b> <b>Message reference number</b>
<i>Include the full heading if attachment is distributed separately from the base order or higher-level attachment.</i>
<b>ANNEX Q (KNOWLEDGE MANAGEMENT) TO OPERATION PLAN/ORDER [number] [(code name)]—[issuing headquarters] [(classification of title)]</b>
<b>(U) References:</b> <i>List documents essential to understanding the attachment.</i>
a. <i>List maps and charts first. Map entries include series number, country, sheet names, or numbers, edition, and scale.</i>
b. <i>List other references in subparagraphs labeled as shown.</i>
c. <i>Doctrinal References for this annex include the following: ATTP 5-01.1, ADP 3-0, ADP 5-0, ADP 6-0, and FM 6-01.1.</i>
<b>(U) Time Zone Used Throughout the Plan/Order:</b> <i>Write the time zone established in the base plan or order.</i>
<b>1. (U) Situation.</b> <i>Include information affecting the functional area that paragraph 1 of the OPLAN or OPORD does not cover or needs to be expanded.</i>
a. (U) <u>Area of Interest</u> . <i>Refer to Annex B (Intelligence) as required.</i>
b. (U) <u>Area of Operations</u> . <i>Refer to Appendix 2 (Operation Overlay) to Annex C (Operations) as required.</i>
<b>[page number]</b> <b>[CLASSIFICATION]</b>

Figure D-1. Knowledge management annex Q format

<p><b>[CLASSIFICATION]</b></p> <p><b>ANNEX Q (KNOWLEDGE MANAGEMENT) TO OPERATION PLAN/ORDER [number] [(code name)]—[issuing headquarters] [(classification of title)]</b></p> <p>c. (U) <u>Enemy Forces</u>. Refer to Annex B (Intelligence) as required.</p> <p>d. (U) <u>Friendly Forces</u>. Refer to Annex A (Task Organization). Outline the knowledge management and information management structure to include higher headquarters. This will include the joint force commander (JFC) involved with the operation.</p> <p>e. (U) <u>Interagency, Intergovernmental, and Nongovernmental Organizations</u>. Identify and describe other organizations in the area of operations that may impact knowledge management (data sharing and collaboration capabilities).</p> <p>f. (U) <u>Civil Considerations</u>. Refer to Annex K (Civil Affairs Operations) as required.</p> <p>g. (U) <u>Attachments and Detachments</u>. List units and capabilities attached or detached only as necessary to clarify task organization and knowledge management and information management.</p> <p>h. (U) <u>Assumptions</u>. List any knowledge management integration assumptions that support the annex development.</p> <p><b>2. (U) <u>Mission</u></b>. State the mission of the knowledge management section or cell in support of the base plan or order.</p> <p><b>3. (U) <u>Execution</u></b>.</p> <p>a. (U) <u>Concept of Operations</u>. Describe how knowledge management supports the commander's intent and concept of operations. Describe how knowledge management will create shared understanding through the alignment of people, processes, and tools within the organizational structure and culture in order to increase collaboration and interaction between leaders and subordinates enabling decisions through improved flexibility, adaptability, integration, synchronization to achieve a position of relative advantage. Describe how knowledge management enhances shared understanding, learning, and decisionmaking during the phases of the operation. Specify the authority exercised at each echelon for each phase of the operation. Describe the roles and relationships between knowledge management sections and cells in the organization and how they will coordinate with joint, combined, and intergovernmental knowledge management elements. Describe how units' knowledge management elements and assets are integrated into the unit battle rhythm, operations process, and during execution.</p> <p>b. (U) <u>Tasks to Subordinate Units</u>. List knowledge management critical tasks assigned to subordinate units not contained in the base plan or order. This may include tasks to combat units and other functional organizations.</p> <p>c. (U) <u>Coordinating Instructions</u>. List only instructions applicable to two or more subordinate units not covered in the base order that affect knowledge management procedures (i.e. commander's critical information requirements).</p> <p><i>(Note 1: Items listed below as examples do not need to be included if already in the unit SOP)</i></p> <p><b>4. (U) <u>Sustainment</u></b>. Provide information as necessary for sustainment of knowledge management unique equipment. Refer to Annex F (Sustainment) as required.</p> <p><b>5. (U) <u>Command and Signal</u></b>.</p> <p>a. (U) <u>Command</u>.</p> <p>(1) (U) <u>Location of Commander</u>. State the location of key knowledge management leaders. Identify who is authorized to make knowledge management decisions for the commander.</p> <p style="text-align: center;">[page number] <b>[CLASSIFICATION]</b></p>
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Figure D-1. Knowledge management annex Q format (continued)

<p><b>[CLASSIFICATION]</b></p> <p><b>ANNEX Q (KNOWLEDGE MANAGEMENT) TO OPERATION PLAN/ORDER [number] [(code name)]—[issuing headquarters] [(classification of title)]</b></p> <p>(2) (U) <u>Liaison Requirements</u>. <i>State the functional area liaison requirements not covered in the base order.</i></p> <p>b. (U) <u>Signal</u>. <i>Address any functional area-specific communications and information management requirements or reports.</i></p> <p><b>ACKNOWLEDGE:</b> <i>Include only if attachment is distributed separately from the base order.</i></p> <p style="text-align: right;">[Commander’s last name] [Commander’s rank]</p> <p><i>The commander or authorized representative signs the original copy of the attachment. If the representative signs the original, add the phrase “For the Commander.” The signed copy is the historical copy and remains in the headquarters’ files.</i></p> <p><b>OFFICIAL:</b></p> <p>[Authenticator’s name] [Authenticator’s position]</p> <p><i>Use only if the commander does not sign the original attachment. If the commander signs the original, no further authentication is required. If the commander does not sign, the signature of the preparing staff officer requires authentication and only the last name and rank of the commander appear in the signature block.</i></p> <p><b>ATTACHMENTS:</b> <i>List lower-level attachment (appendixes, tabs, and exhibits).</i></p> <p>Appendix 1– Knowledge Management Decision Support Matrix  Appendix 2– Common Operational Picture (COP) Configuration Matrix  Appendix 3– Mission Command Information Systems Integration Matrix  Appendix 4– Content Management  Appendix 5– Battle Rhythm</p> <p><b>DISTRIBUTION:</b> <i>Show only if distributed separately from the base order or higher-level attachments.</i></p> <p style="text-align: center;">[page number] <b>[CLASSIFICATION]</b></p>
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Figure D-1. Knowledge management annex Q format (continued)

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## Appendix E

# Facilitating a Professional Forum

This appendix provides lessons learned and best practices for maintaining and evolving professional forums. Professional forums are those forums that exist to advance the conversation and ideas within a given profession. Army professional forums are moderated forums that have a structure that is consistent with Army organizational objectives and may contain numerous subordinate communities. They are communities of Soldiers who share a common set of problems, a passion for a topic, and are dedicated to deepening their knowledge and expertise as lifelong learners.

### ARMY PROFESSIONAL FORUMS

E-1. The Army calls its supported and structured communities of practice “professional forums.” Forums are venues where communities of interest, communities of practice, or communities of purpose interact. Through forums individuals deepen their knowledge and expertise by regularly interacting with each other. These forums are virtual communities enabled by technology to form without regard to members’ locations.

E-2. Army Professional forums provide the means—

- To connect widely separated military personnel or DOD civilians who might not otherwise have the opportunity to interact.
- To provide a shared context for military personnel or DOD civilians to communicate and share information, stories, and personal experiences in a way that builds understanding and insight.
- To enable dialogue between military personnel or DOD civilians who come together online to explore new possibilities, solve challenging problems, and create new, mutually beneficial opportunities.
- To stimulate learning by serving as a vehicle for authentic communication, mentoring, coaching, and self-reflection.
- To capture and diffuse existing knowledge to help military personnel or DOD civilians improve their practice by providing a central online location to identify solutions to common problems and a process to collect and evaluate best practices.
- To help military personnel or DOD civilians organize around purposeful actions that deliver tangible results.
- To generate new knowledge to help military personnel or DOD civilians transform their practice to accommodate changes in needs and technologies.

### GUIDING PRINCIPLES FOR ARMY PROFESSIONAL FORUMS

E-3. Army professional forums focus on practice. Members of an Army Professional forum support their community through coaching and mentoring others in the community. They focus on both “*how to*” and “*what to do*” within their domains. Army professional forums are—

- Passionate about quality— Members of an Army Professional forum look for quality as well as quantity in the knowledge exchanged.
- Secure and Stable—Army forums must meet the functional needs of the community while ensuring continuous reliability and access, within the larger organization’s enterprise architecture.

- Grounded in trust— Army professional forums are about the members they serve. The members of each forum are the owners and stewards of the community’s body of knowledge. Central to success is the trust members place in their peers to uphold standards, professional focus, respect one another’s opinions.
- Connectors to members with knowledge—Army professional forums are about facilitating the community’s ability to connect members in search of knowledge with expertise through conversation and content within a professional context.
- Innovative—Army professional forums must remain flexible and adaptive to the needs of the members. They should strive to build and maintain a learning culture that allows for the creation of knowledge through sharing and dialogue about new ideas and approaches.
- Focused on solutions—Army professional forums should focus on practical issues and solutions relevant to the community.
- Committed to the Army—Professional forums are about the Soldiers and leaders who desire to adhere to Army values and serve as dedicated stewards of their profession. Professional forms support the strategic goals and vision of the Army while serving their community.
- Constructed with a common look and feel—All Army professional forums are unique in certain regards but a common look and feel will reduce the learning curve from forum to forum as members develop throughout their careers.
- Developed to share horizontally—Army professional forums provide the ability to share relevant knowledge horizontally across an organization and to link diverse leader teams around specific problems and solutions.

### **DEVELOPING AN ARMY PROFESSIONAL FORUM**

E-4. Developing a productive Army professional forum requires a compelling need, the work of multiple participants, and time to mature and grow. Professional facilitators should expect 6-9 months development followed by an additional 3-6 months before organizational value becomes apparent.

E-5. The following five step developmental processes will ensure the necessary elements are present that lead to an active and productive Army professional forum. These steps are cyclic and ongoing through the life of the forum. They are not linear and terminal.

1. Analysis—conduct a needs analysis and an organizational analysis.
2. Planning—a forum development group conducts a development workshop and produces a project plan.
3. Build—develop and test the forum structure, taxonomy, software, and initial content. Train the team and test the system.
4. Deploy—conduct a pilot run, modifying the forum as need based on participant feedback and train the participants on the tools. Market the forum.
5. Operate and sustain—an on-going step as the facilitator, and participants determine what topics and tools are relevant, and then they change the way knowledge items are presented and discussed as needed.

E-6. Knowledge management forum support establishes and maintains the technical and administrative conditions for a structured, professionally facilitated forum to succeed throughout its entire life-cycle and is provided by a host of individuals including information technology professionals, knowledge management professionals, and facilitators.

### **FACILITATING A KNOWLEDGE MANAGEMENT FORUM**

E-7. Facilitating a knowledge forum involves actions necessary to operate and manage the day-to-day operations of the professional forum. Facilitation is the activity that enables members of a professional forum to work more effectively, to collaborate and achieve synergy online or offline.

E-8. Facilitators use a variety of techniques and tools to enable that collaboration to occur; they push out things that they receive to individuals or to the entire forum, they prod forum members to participate or

provide specific things to the discussion, and they pull information from the forum and other forums that they know forum members need or are looking for.

E-9. Each professional forum differs from one another; the activities of each forum facilitator will also differ to meet community needs and requirements. However, some functions are relatively universal to facilitation of all Army forums. Forum facilitators—

- Approve or disapprove forum membership requests.
- Review all posts, threads, and replies for content.
- Review all content for operations security and enforce operations security safeguards.
- Track contributions and contact members when needed.
- Produce welcome letters and a forum newsletter.
- Answer member queries.
- Encourage participation and acknowledge.

E-10. On a recurring basis (weekly, monthly, or quarterly, depending on the situation) forum facilitators should—

- Interface with topic leads.
- Review and manage forum membership.
- Recruit subject matter experts and special guests to participate.
- Market the forum through various media.
- Update the forum front-page.
- Initiate a new discussion or highlight a priority topic.
- Develop and publish the forum newsletter.
- Feature members or topics in the forum newsletter.
- Identify and highlight forum success stories.
- Track and understand the performance of the forum through metrics.
- Recruit, monitor, and manage volunteers and members.
- Follow up on discussion threads that have been unanswered.
- Develop and distribute questionnaires.
- Conduct a forum facilitation team meeting.

E-11. These recommended “duties” serve as a guide to forum facilitators; however, each forum is unique and so facilitators must determine, based on the needs of purpose of membership, the frequency and amount of time that is given to each duty. Tables E-1 and E-2 through E-4 (on page E-4) provide examples and quick references on possible daily, weekly, monthly, and quarterly duties.

**Table E-1. Daily tasks**

1	Approve or disapprove membership requests
2	Answer member emails and address telephone inquiries
3	Thank members who participate
4	Review newly posted discussion threads and replies
5	Review, approve, disapprove, and edit contributions (content)
6	Contact membership
7	Track contributors
8	Manage content
9	Share content with other forums and knowledge networks (when identified)
10	Upload content to forum home page

**Table E-2. Weekly tasks**

1	Contact several topic leads
2	Update front page highlights
3	Work on newsletter
4	Identify and feature a member/group on your front page
5	Review and metrics and track forum performance
6	Identify and recruit topic leaders
7	Follow up on unanswered questions posted in discussions
8	Seek feedback on the forum from members
9	Identify and report knowledge management success stories

**Table E-3. Monthly tasks**

1	Publish monthly newsletter
2	Launch, identify, and highlight a priority discussion
3	Review and report metrics
4	Conduct a forum team meeting
5	Review site content and topics
6	Conduct a forum pro reading challenge
7	Conduct professional development

**Table E-4. Quarterly tasks**

1	Review and manage memberships
2	Recruit subject matter experts
3	Market the forum

**FORUM PERFORMANCE METRICS**

E-12. The establishment and collection of metrics is critical to a forum’s ability to assess the value of the forum’s activities to the individual, community, and sponsor organization. The collection of metrics aids in the effort to secure and apply the resources required to maintain the forum. One can think of these metrics as measures of potential. The fact that members visit the site does not indicate that knowledge is being shared but the greater the number of members and page visits, the greater the potential for sharing of knowledge.

Table E-5. Performance metrics

<i>Key System Measures</i>	<i>Key Output Measures</i>	<i>Key Outcome Measures</i>
<p>Latency (response times).</p> <p>Number of downloads.</p> <p>Number of site accesses.</p> <p>Dwell time per page or section.</p> <p>Usability survey.</p> <p>Frequency of use.</p> <p>Navigation path analysis.</p> <p>Number of help desk calls.</p> <p>Number of users.</p> <p>Frequency of use.</p> <p>Percentage of total employees using system.</p> <p>Number of contributions.</p> <p>Frequency of update.</p> <p>Number of members.</p> <p>Ratio of the number of members to the number of contributors (conversion rate).</p>	<p>Usefulness surveys where users evaluate how useful initiatives have been in helping them accomplish their objectives.</p> <p>Usage anecdotes where users describe (in quantitative terms) how the initiative has contributed to business.</p> <p>Number of “apprentices” mentored by colleagues.</p> <p>Number of problems solved.</p>	<p>Time, money, or personnel time saved as a result of implementing initiative.</p> <p>Percentage of successful programs compared to those before KM implementation.</p> <p>Savings or improvement in organizational quality and efficiency.</p> <p>Captured organizational memory.</p> <p>Attrition rate of community members versus nonmember cohort.</p> <p>Time to competency reduced.</p>

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# Glossary

## SECTION I – ACRONYMS AND ABBREVIATIONS

<b>AAR</b>	after action review
<b>ADP</b>	Army doctrine publication
<b>AKMQ-C</b>	Army Knowledge Management Qualification Course
<b>AR</b>	Army regulation
<b>ARFORGEN</b>	Army force generation
<b>ASI</b>	additional skill identifier
<b>ATTP</b>	Army tactics, techniques, and procedures
<b>BCT</b>	brigade combat team
<b>BFSB</b>	battlefield surveillance brigade
<b>CALL</b>	Center for Army Lessons Learned
<b>COP</b>	common operational picture
<b>CP</b>	command post
<b>DOD</b>	Department of Defense
<b>FA</b>	functional area
<b>FM</b>	field manual
<b>G-2</b>	assistant chief of staff, intelligence
<b>G-6</b>	assistant chief of staff, signal
<b>HBCT</b>	heavy brigade combat team
<b>HQ</b>	headquarters
<b>IPB</b>	intelligence preparation of the battlefield
<b>IBCT</b>	infantry brigade combat team
<b>IDM-T</b>	information dissemination management–tactical
<b>JFC</b>	joint force commander
<b>JP</b>	joint publication
<b>KM</b>	knowledge management
<b>KMR</b>	knowledge management representative
<b>NCO</b>	noncommissioned officer
<b>NIPRNET</b>	Nonsecure Internet Protocol Router Network
<b>OPLAN</b>	operation plan
<b>OPORD</b>	operation order
<b>OPTEMPO</b>	operations tempo
<b>S-2</b>	intelligence officer
<b>S-6</b>	signal officer
<b>SBCT</b>	Stryker brigade combat team
<b>SIPRNET</b>	SECRET Internet Protocol Router Network
<b>SOP</b>	standard operating procedure

TC	training circular
TTP	tactics, techniques, and procedures

## SECTION II – TERMS

### **battle rhythm**

A deliberate daily cycle of command, staff, and unit activities intended to synchronize current and future operations. (JP 3-33)

### **common operational picture**

(Army) A single display of relevant information within a commander's area of interest tailored to the user's requirements and based on common data and information shared by more than one command. (ADP 6-0)

### **data**

(Army) Unprocessed signals communicated between any nodes in an information system, or sensings from the environment detected by a collector of any kind (human, mechanical, or electronic). (ADP 6-0)

### **Global Information Grid**

(joint) The globally interconnected, end-to-end set of information capabilities, associated processes and personnel for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel. (JP 6-0)

### **information**

The meaning that a human assigns to data by means of the known conventions used in their representation. (JP 3-13.1)

### **information management**

(Army) The science of using procedures and information systems to collect, process, store, display, disseminate, and protect data, information, and knowledge products. (ADP 6-0)

### **\*knowledge**

Information that has been analyzed to provide meaning or value or evaluated as to implications for the operation.

### **\*knowledge creation**

The process of developing new knowledge or combining, restructuring, or repurposing existing knowledge in response to identified knowledge gaps.

### **\*knowledge transfer**

Movement of knowledge—including knowledge based on expertise or skilled judgment—from one person to another.

### **mission command system**

The arrangement of personnel, networks, information systems, processes and procedures, and facilities and equipment that enable commanders to conduct operations. (ADP 6-0)

### **working group**

A grouping of pre-determined staff representatives who meet to provide analysis, coordinate, and provide recommendations for a particular purpose or function. (ADP 5-0)

## References

Field manuals are listed by new number followed by old number. Most Army doctrinal publications are available online: <https://akocomm.us.army.mil/usapa/doctrine/>. Army regulations are produced only in electronic media. Most are available online: <https://akocomm.us.army.mil/usapa/epubs/index.html>.

### REQUIRED PUBLICATIONS

These documents must be available to intended users of this publication.

FM 1-02. *Operational Terms and Graphics*. 21 September 2004.

JP 1-02. *Department of Defense Dictionary of Military and Associated Terms*. 8 November 2010.

### RELATED PUBLICATIONS

These documents contain relevant supplemental information.

### JOINT AND DEPARTMENT OF DEFENSE PUBLICATIONS

JP 3-13.1. *Electronic Warfare*. 8 February 2012.

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AR 25-1. *Army Knowledge Management and Information Technology*. 4 December 2008.

AR 25-400-2. *The Army Records Information Management System (ARIMS)*. 2 October 2007.

AR 380-5. *Department of the Army Information Security Program*. 29 September 2000.

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FM 2-01.3. *Intelligence Preparation of the Battlefield/Battlespace*. 15 October 2009.

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### PRESCRIBED FORMS

None

### SOURCES USED

Battle Command Knowledge System.

“Army Professional Forum Facilitator Guide.” Fort Leavenworth: Kansas, October 2008.

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