



Leading Structured Organization in the Dynamic Information Age

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THE ADVENT OF THE INFORMATION AGE has provided a wealth of technological advances and opportunities. However, the U.S. military continues to function as a structured, hierarchical organization surrounded by a complex, globally connected, and dynamic environment. A majority of service personnel—younger men and women—are from the millennial generation; they are accustomed to a society of information permeability where knowledge spreads across nonlinear communication channels. They expect

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instant access to information and possess a desire to share it. In contrast, senior leaders entered the military before the advent of the Information Age. They are prone to possess mental models coinciding with traditional hierarchical structures, such as positional leadership, linear thinking, and inherent reservations about information sharing. This mental model embraces centralized control and resists change. It can hinder leadership of the multigenerational force and interfere with operations in a modern, highly technical, and rapidly evolving environment. To ensure future success, the U.S. military must identify innovation, leverage creativity from millennial service members, and develop change leaders capable of building a learning organization. The U.S. military can coexist as a structured organization within a dynamically complex world if senior leaders view information permeability as an opportunity instead of a challenge. Sustaining an agile force capable of responding to current and emerging threats will require creative leadership and innovative information management.

A New Way of Thinking

Since the 18th century, the U.S. military has existed as a classic hierarchical organization with centralized control and linear information sharing. Leaders at each echelon in the chain of command hold authority over those under them and translate higher-level guidance into actionable tasks for subordinate levels. Information flows up and down through multiple echelons along linear paths and consolidates at the top. Senior positions, with more decision-making authority, possess higher rank earned through demonstrated proficiency and multiple decades of service. Flag-grade officers normally have more than 25 years in service and entered the military at the end of the Cold War but before the popularization of the Internet.¹ With several decades of service in the military, senior leaders possess inherent generational biases associated with structured, linear, and hierarchical organizations. Overcoming these internalized, structured mindsets presents a challenge in today's interconnected, rapidly changing, and often-unstructured environment.

Over the past two decades, advances in information technology have driven cultural changes

across the world. The growth of information-sharing capability has led to globally connected societies and rapidly changing relationships among nations. Information systems have enabled the rise of nonstate actors, facilitated Army operations, and created new battlegrounds for conflict, such as cyberspace. The world exists today as a highly technical society with instant, global access to information—a place where agility and responsiveness are necessities, not luxuries. Contributing to this dramatic evolution is the influx of a youthful military workforce that has lived exclusively in the Information Age. Known as the military millennial, this generation was born in 1984 or later and has grown up within complex, interconnected systems.² Demographically, over 66 percent of service men and women are age 30 or younger (see figure 1).³ Much of this generation possessed computer skills before learning to read or write. They have children who discover the Internet, on average, by the age of three.⁴ The military millennial generation contrasts sharply with the most senior military leaders who have served for nearly 30 years or more—longer than a majority of military service men and women have lived. While senior leaders possess wisdom and a wealth of experience, those of the military millennial generation benefit by inherently applying a systems-thinking framework to problem solving. The millennials look past simple, linear, cause and effect relationships and appreciate the complexity of the new information environment.

In today's society, information collection and dissemination occur along nonlinear paths facilitated by constant access to mobile technology. The bleeding of communications across nonstandard and unofficial hierarchically structured echelons creates information permeability. Among the chief generational impacts of the nonlinear and open dissemination of information is the compelling desire for the millennial generation to share data through social media sites such as Facebook, Twitter, or LinkedIn. While information permeability presents significant risk-management challenges for leaders, it enables the millennial generation on-demand knowledge discovery through venues (e.g., Google or Wikipedia) where those who are connected believe they can learn what they do not know and feel empowered to independently

solve organizational challenges. *Ad hoc* networks, teams, and working groups manifest in these out-of-band communication environments and can develop into an emerging group of expert problem solvers, innovators, or catalysts for change; they are called positive deviants.⁵ Identifying positive deviants and creating a culture that allows them to prosper is a key challenge facing U.S. military leaders.

A Smaller World

The primary technological catalyst for information permeability—social media—has played a major role in shaping global events. Recent upheaval in the Middle East demonstrates that information technology can give rise to societal change. While the lasting historical impact of the Arab Spring is still difficult to predict, social media continues to play a growing role in political, societal, and economic developments throughout the Arab region.⁶ Figure 2 shows the exponential increase in Twitter use across Egypt during the beginning of the Arab Spring—an explosion in data that effectively made the world smaller.⁷ Information permeability driven by modern technology in the hands of a youthful generation is affecting both nation states and nonstate actors.

Global information permeability is challenging the foundational values of hierarchical organizations. The U.S. military should learn from these

events and purposely adapt to avoid similar calamity. Gen. Raymond Odierno, the Army chief of staff, reflected on the pace of technological change in today’s world and the impact of rapid, global information exchange upon our overall security environment. He recognized that the Army, with its global reach and responsibilities, requires large technological advantages, or what he termed “technological overmatch,” to prevail decisively in combat.⁸ The requirement for this technological overmatch drives the need to identify relevant information among a deluge of data. The U.S. military must learn to adapt rapidly in a highly technical information-permeable world, or it will fail within it.

Differing Viewpoints

While the military hierarchy excels at providing stability and maintaining order and discipline, its traditional bureaucratic model has resulted in an internal conflict of information-sharing ideals. Thrust from a highly connected, decentralized environment into the structured military, new recruits accustomed to instant information availability and rapid change become disillusioned and disenfranchised due to slow decision making and tight control of information at each level in the chain of command. This situation is brought about through traditional viewpoints regarding military functions. Peter Senge has characterized these personally established viewpoints, assumptions, assertions, or beliefs about how one

Age	Personnel	%
17-25	610,274	43.24%
26-30	321,533	22.78%
31-35	201,605	14.28%
36-40	153,361	10.87%
41+	124,652	8.83%

Figure 1
Active duty military personnel demographics, all service components, age comparison

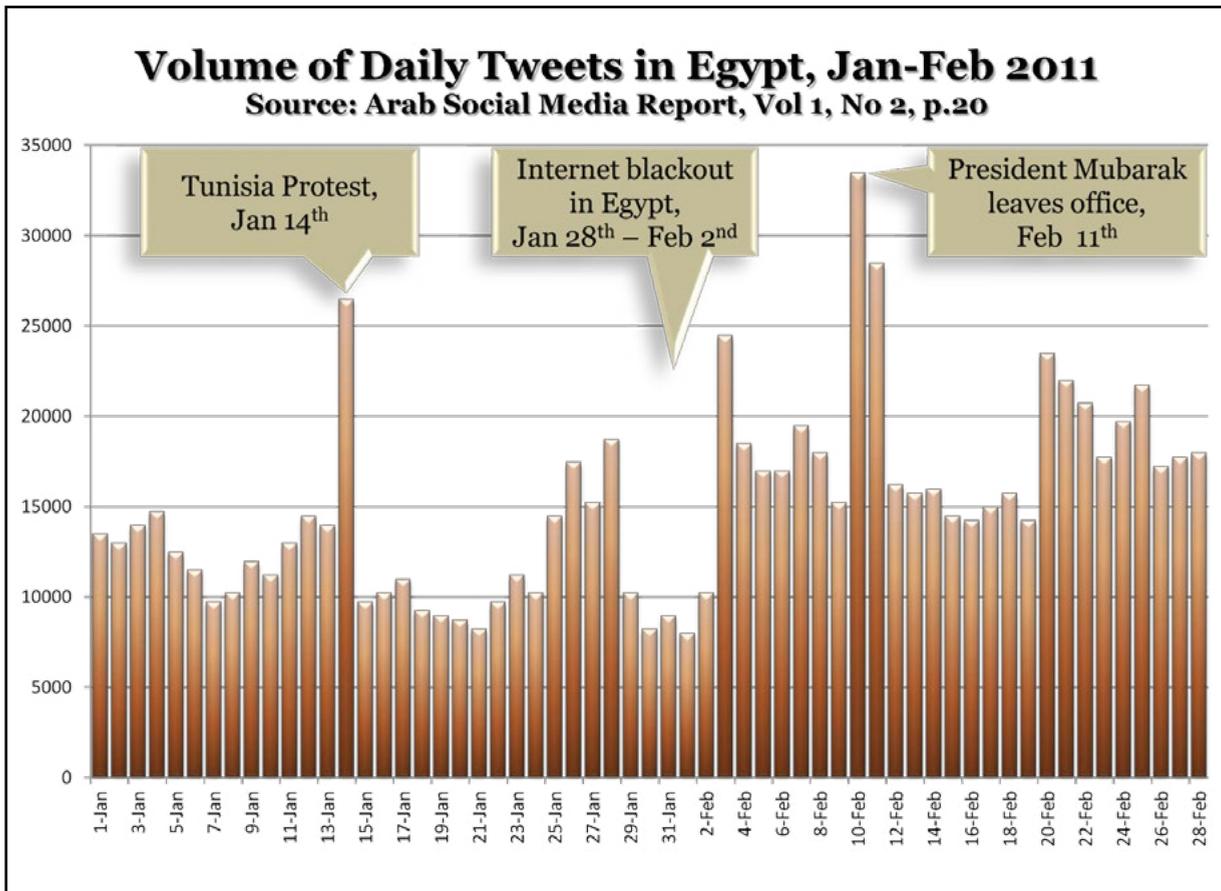


Figure 2
Volume of daily tweets in Egypt, January-February 2011

thinks the world works as mental models.⁹ These rigid and highly individualized mental models affect how an individual analyzes a situation, and they explain why two people can interpret daily events in completely different ways. Military leaders with decades of service are prone to have developed mental models commensurate with a hierarchical organization rooted in linear information channels and bureaucratic processes. Senior leaders must recognize and overcome these mental models to adapt and ensure improved cross-generational communication in a rapidly evolving world.

Mental model based on position. One mental model associated with a structured organization values strong positional leadership where individuals execute their duties with the authority granted by their position.¹⁰ In the military, those who ascend upward in the hierarchy are recognized with promotion in rank; higher positions in the organization equate to higher positions of authority. Traditional

thinking prescribes inflexible positional leadership and concludes those in senior positions are the most knowledgeable, experienced, and informed. The structured organizational model assumes that those with seniority in rank are most capable to lead and grants the authority to do so. However, younger generations do not immediately accept this mental model and, surprisingly, they do not immediately assume experience is relevant. Leaders at all levels must understand these differing viewpoints. Individuals who assume that younger subordinates accept authority at face value may ultimately fail. Instead of acting in the narrowly framed leadership role of most knowledgeable expert and attempting to command and control information, senior leaders must become the *chief facilitation officer* by guiding organizational processes, communication channels, and information dissemination.¹¹ Leaders must identify and accept subordinates who are more skilled and informed, and possibly better postured,

to lead specific organizational efforts. By mentoring and focusing highly skilled and informed individuals, the *positive deviants*, and by aligning efforts and values with strategic vision, leaders can improve the effectiveness of the U.S. military as an organization.

Mental model using linear thinking. A second mental model common within the U.S. military is to narrowly view and scope a problem based on traditional linear thinking. Linear thinking, or

...information hoarding is a persistent mental model that impacts communication throughout the military.

the notion that each decision has a direct cause-and-effect relationship associated with positive and negative consequences, is no longer a valid assumption in a complex and dynamic environment. With 24-hour news channels, social media, and interconnected global networks, military operations and organizations are now part of a complex system of systems with nonlinear and often anonymous information-sharing relationships. Senge describes this as dynamic complexity, “when an action has one set of consequences locally and a very different set of consequences in another part of the system.”¹² An example of this concept is the “CNN effect” whereby a single act on the battlefield can have global strategic ramifications.¹³ Courses of action in a standard military decision briefing can have multifaceted outcomes beyond simple cause-and-effect advantages and disadvantages. A two-dimensional decision matrix is no longer a viable tool to weigh and compare military options in a multidimensional, complex information environment. Senior leaders must understand these nonlinear relationships to ensure the U.S. military remains strong and adaptable in an increasingly interconnected, global society. Multidimensional leaders will need to mitigate risk associated with negative, threatening consequences while identifying and exploiting the positive, opportunistic ones.

Mental model using linear information channels. Finally, information hoarding is a persistent mental model that impacts communication throughout the military. Before the advent of the Information Age, information flowed linearly along structured bureaucratic processes and through stovepipe channels. Data passed from one echelon to the next on a need-to-know basis, with leaders at all levels encouraged to protect or hoard information.¹⁴ However, as the military entered the 21st century, the potential for information flow became nearly instantaneous. Unfortunately, linear information channels persist in today’s military and, to some degree, they are critical for national security and force protection. However, this mind-set has fostered a culture of information hoarding at higher echelons in the chain of command. This tight control contradicts the military millennial’s incessant desire to share information. Leaders must break with the traditional, top-down approach to centrally managing information. Instead, they should entrust subordinates and embrace information permeability by communicating a vision and subsequently providing transparency to nonsensitive information across the organization. This empowering leadership approach avoids the paralysis from information hoarding and is more likely to inspire motivation and productivity. Robust information sharing enables *ad hoc* teams to develop, prosper, and improve organizational business processes.

Knowledge Management

Modern information technology produces dynamic complexity in organizations, and knowledge management plays a fundamental role in taming this complexity. Leaders must be purposeful in designing collaborative environments and knowledge management structures to ensure information permeability aligns with and supports organizational goals. While there are advantages to free form, unguided collaboration through social media, a complete lack of structure or synchronization can increase organizational risk and prevent mission accomplishment.¹⁵ A knowledge management system can bring people and information together, but without sufficient guidance and innovative leadership, it will not be productive. To avoid *social islands*, or collaborative spaces only serving small groups, leaders should attempt to



Staff Sgt. Frank Rodriguez, 22nd Chemical Battalion, Aberdeen Proving Ground, Md. (center), gives direction to Sgt. Matthew Eldridge (right) and Sgt. Jerred Keeton (left) as they prepare an explosive ordnance disposal robot for a vehicle-borne improvised explosive device exercise. The team competed in the Explosive Ordnance Disposal Team of the Year competition, hosted by Aberdeen Proving Ground's 20th Support Command (CBNRE) and held at Fort Knox, Ky. 13-17 August 2012 (DOD, Marv Lynchard)

create an ecosystem that knits together the organization's existing systems, making the collaborative environment more attractive and valuable to the entire organization. The Army has taken advantage of technology and knowledge management to achieve superior results. Army Knowledge Online (AKO) had over 2.4 million registered users and over 16 million monthly log-ins in 2011.¹⁶ Its brand name capability, comparable to Facebook and Twitter in Army channels, brings together active, reserve, and retired military, as well as contractors, Army civilians, and even dependents in one online location. Leaders should exploit socially oriented technology and use a collaborative approach relying on leadership through personal power and influence rather than direct command and control. Facilitating a collaborative environment with vibrant information exchange sets the stage for innovation and change, but this environment also requires change leadership.

A Changing Culture

A younger workforce raised exclusively in the Information Age presents a significant challenge

for today's military leaders. To overcome such challenges, the U.S. military must foster a culture of change leadership where leaders are willing to adapt and embrace organizational transformation. The military requires a growing number of change leaders focused on building learning organizations. Learning organizations are able to constantly adapt and inspire new cultural values among a diverse, multigenerational workforce. As David Brandon, chairman and CEO of Domino's Pizza, observed, "When an organization is successful, people tend to believe that they can stop improving. But things never stay the same: either you get better, or you get worse."¹⁷

Change leaders foster learning organizations. They inspire and empower their people to develop new organizational architectures, collaborative practices, and strategic control systems for transparent, repeatable, and goal-focused decision making. Learning organizations focus on producing, managing, and, most importantly, transferring knowledge to continuously evolve and meet new challenges based on the collective

workforce knowledge and insights.¹⁸ Learning organizations will not find simple answers to the complex problems they encounter, but change leaders in these organizations may leverage the innovative and growing knowledge base of their young people to confront these challenges. Learning organizations with change leaders improve the military's ability to communicate internally and engage externally by combining the power of individual intuition, open information sharing, and collective organizational knowledge.

The U.S. military needs to become a learning organization directed by change-oriented leaders who will be able to move beyond development of strategy and enact visionary change in organizational culture. As a learning organization, the U.S. military can leverage collective knowledge to sustain leadership development at the highest levels. Mature change leaders will communicate a clear, compelling vision, philosophy, and goals for the U.S. military and passionately motivate service members to align individual priorities around a transformative vision. The military can become a proactive, learning organization in a highly technical, interconnected, and nonlinear environment if

its senior personnel embrace their role as impactful change leaders.

Looking forward, a challenging future will require military leaders to build adaptable and transformative organizations that leverage technology and knowledge management, value the innovative ideas of new generations, and emphasize organizational learning and personal development. U.S. military leadership must seek emerging change leaders among its positive deviants. These leaders will exhibit mature, systems-oriented thought processes, be in touch with new generations of service members, and inherently leverage new technology and information permeability. By fostering nontraditional communication and guiding the knowledge management process, leaders can enable innovation and build information permeability into an otherwise rigid hierarchy. Most importantly, change leaders will transform military services into change-centric, learning organizations. Ultimately, modern military services will generate and develop new and even more adept transformative leaders, allowing the U.S. military to adapt and succeed through the dynamically complex 21st century Information Age and beyond. **MR**

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