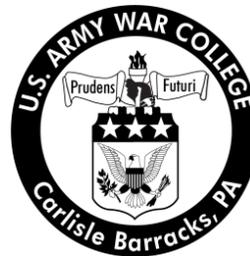


Strategy Research Project

Sustainment Transformation: Achieving a Revolution in Distribution Based Logistics

by

Colonel Kevin M. Powers
United States Army



United States Army War College
Class of 2013

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USAWC STRATEGY RESEARCH PROJECT

**Sustainment Transformation:
Achieving a Revolution in Distribution Based Logistics**

by

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Abstract

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As the U.S. military came out of Desert Storm and Desert Shield and the significant changes the world experienced with the end of the Cold War, leadership knew that how the Army conducted business had to change. No longer facing the Iron Curtain across the Fulda Gap, the days of massive formations requiring mountains of supplies were not going to allow the Army to function in a manner the new strategic environment dictated. Consequently, the Army, and the Department of Defense, embarked on transforming the force to enhance strategic responsiveness by making themselves more agile and responsive. The logistics community was at the forefront of this effort, and by some accounts were the main effort in the Army's plan to achieve a revolution in military affairs. After more than two decades since these transformation efforts began, it is arguable at best, if the Army has achieved revolutionary change that would signify a true transformation. Characterizing the future environment is a blurring of the movement and maneuver and the sustainment war fighting functions. For future operations to be successful, the Army must finally realize a revolution in military logistics by achieving a revolution in distribution.

Sustainment Transformation: Achieving a Revolution in Distribution Based Logistics

DBL is an operational concept that relies on distribution velocity and precision rather than redundant supply mass...

–Robert McKay & Kathy Flowers¹

As we continue into the second decade of the twenty-first century, the challenges and pressures confronting the United States continue to test our policy makers and strategic leaders. These challenges cross many spectrums and come from external threats confronting our foreign policy, national security, and military strategy as well as internally from concerns about future economic constraints and the implications of drastic cuts in defense spending. As we address these issues, and the realities they present, we have challenging decisions to make on what the future force structure will be and the capabilities we will invest in or those we cannot afford, subsequently increasing our risk with strategic responsiveness.

Of critical concern will be the Army's ability to meet the requirements outlined by the Secretary of Defense promulgated through his strategic guidance issued in January 2012. In this guidance, he clearly outlines our responsibility for being able to respond to one and a half major regional conflicts. "Even when U.S. forces are committed to a large-scale operation in one region, they will be capable of denying the objectives of – or imposing unacceptable costs on – an opportunistic aggressor in a second region." He further highlights the need for responsiveness when he articulates, "Our ground forces will be responsive and capitalize on balanced lift, presence, and prepositioning to maintain the agility needed to remain prepared for the several areas in which such conflicts could occur."² This responsibility clearly hinges on our ability to react and that ability to react centers on our strategic distribution and deployment capabilities. Our

ability to transform the distribution and projection capability of our sustainment system, or simply put, achieving a revolution in distribution based logistics (DBL) will directly affect our ability to meet future challenges.

Over the past two decades, since the end of the Cold War and the conclusion of Operation Desert Storm, we have pursued numerous changes in the Army. Have these changes been revolutionary as in a complete change that constitutes or brings about a major or fundamental change; or have they been evolutionary, the type of change that entails the state or process of continuous change from a lower, simpler, or worse to a higher, more complex, or better state changing to fit a new environment or different conditions as technology advances?³ A revolution in military affairs is the term once used to refer to this revolutionary, or transformational, change. The sustainment community did not miss the bandwagon when then Chief of Staff of the Army (CSA), retired General Dennis Reimer, in 1999 coined the phrase a revolution in military logistics. "There can be no revolution in military affairs (RMA) without first having a revolution in military logistics (RML). To provide the capabilities-based forces we need for the future, we must set the stage for transformation by changing the way we project and sustain those forces."⁴

This proclamation was just one in a long thread of statements by almost every strategic leader. From Secretaries of Defense, Chairmen of the Joint Chiefs of Staff, subsequent Army Chiefs of Staff, as well as the senior logistics leaders of our military, they all proclaimed that we need to transform how we conduct sustainment before we can achieve real transformation within our Army. Figure 1 depicts the wide ranging, and often incongruent, list of documents and ideas between the mid-90s and 2004 that

address the need to revolutionize logistics if we truly want to transform the Army to meet future challenges and still be the greatest military force in the twenty-first century.

1996–2004 Published Tenets and Focus Areas of Logistics	
1996–1997	
Army Vision 2010	Joint Vision 2010
Anticipatory Logistics and Personnel Support	Joint Theater Logistics Command and Control
Split-Based Operations	Joint Deployment and Rapid Distribution
Sustained Tempo	Information Fusion
Enhanced Throughput Operations	Multinational Logistics
Velocity Management	Joint Health Services Support
Battlefield Distribution System	Agile Infrastructure
Total Asset Visibility	
Objective Supply Capability	
1999–2002	
Revolution in Military Logistics	Joint Vision 2020
Seamless Logistics System	Customer Wait Time
Distribution-Based Logistics	Time Definite Delivery
Total Asset Visibility	Total Asset Visibility
Agile Infrastructure	Web-Based, Shared-Data Environment
Rapid Force Projection	Total Life-Cycle System Management
Maintaining an Adequate Logistics Footprint	Condition-Based Maintenance
	Depot Maintenance Partnerships
	End-to-End Distribution
	Executive Agents
	Enterprise Integration
2004	
Army Transformation Roadmap	Army Logistics White Paper
Logistics Data Network	Connect Army Logisticians
Responsive Distribution System	Modernize Theater Distribution
Robust Modular Force Reception Capability	Improve Force Reception
Integrated Supply Chain	Integrate the Supply Chain

Figure 1⁵

This monograph will outline the vast amount of guidance and direction proliferated, and the work conducted over the past couple of decades to transform the logistics systems in support of Army transformation. I present, analyze, and evaluate what changes related to distribution were achieved, if they were truly transformational, and if sustainment transformation achieved one of the specified goals, to change from a supply-based logistics system to a distribution-based logistics system. Finally, I will outline recommended changes that are necessary in distribution and projection

capabilities to realize a revolution in military logistics. Like the inextricable link between a revolution in military affairs and a revolution in military logistics, we will not achieve a revolution in military logistics until we achieve transformational change in distribution-based logistics. The Army's Chief of Transportation captures the importance of distribution to logistics in his Strategic Blueprint. "Logistics is about movement and velocity, and distribution is an operational process of synchronizing all elements of the logistics system to deliver the right things to the right place at the right time."⁶

History and Background

Following the end of the Cold War and Operations Desert Shield and Desert Storm the Army leadership knew they had to change. However, the Army did not formalize the general transformation plan until 1994 when they announced the Army of the future as Force XXI and established a force to develop and experiment with transformational concepts.⁷ The Army designated the Training and Doctrine Command (TRADOC) as the overall lead for managing transformation and the Combined Arms Support Command (CASCOM), a TRADOC subordinate command, responsible for logistics transformation. Logistics transformation was slow to start; it would be almost three years before the Army issued any significant guidance or made much effort in this area.

Logistics Transformation: Disjointed and Poorly Communicated Guidance and Direction

In 1997, the Army published *Army Vision 2010*. The Army's vision directly stemmed from the Chairman of the Joint Chiefs of Staff vision published in 1996 entitled *Joint Vision (JV) 2010*. This outlined the Chairman's thoughts on how the United States military needed to prepare to meet anticipated National security requirements in 2010. Together these visions introduced the operational concept of Focused Logistics.

Referred to as one of the key tenets required for the military to achieve full spectrum dominance over our adversaries, Focused Logistics became the centerpiece for sustainment transformation. As defined by *Army Vision 2010*, Focused Logistics was “the fusion of information, logistics, and transportation technologies to provide rapid crisis response, to track and shift assets even while en route, and to deliver tailored logistics packages and sustainment directly at the strategic, operational, and tactical level of operations.” The Army named eight concepts, five enablers, and four technologies they would pursue in the development of Focused Logistics.⁸

In August 1997, the Joint Staff J4 published a supplement to *Joint Vision 2010* entitled *Joint Vision 2010 Focused Logistics, A Joint Logistics Roadmap*. The authors described it as an action plan for the identification and integration of new joint logistics initiatives and ideas. “Focused Logistics is not the latest “fad,” which will pass with the introduction of a new regime. It is a plan of action, as well as a state of mind, that we must perpetuate throughout the joint logistics community. Focused Logistics is a dynamic plan of action for combat support to the warfighter.”⁹ This self-proclaimed roadmap identified six tenets: Joint Theater Logistics Command and Control, Joint Deployment and Rapid Distribution, Information Fusion, Multinational Logistics, Joint Health Services Support, and Agile Infrastructure as well as six critical considerations: people, leadership, doctrine, training, organization, and material (Figure 2) that Focused Logistics aims to address to achieve the stated goals. These formed the framework for the logistics transformation that would enable the sustainment community to support joint warfighting as envisioned in 2010. A stated purpose was to ensure a systematic, relational method to developing new capabilities that enhanced these areas.¹⁰

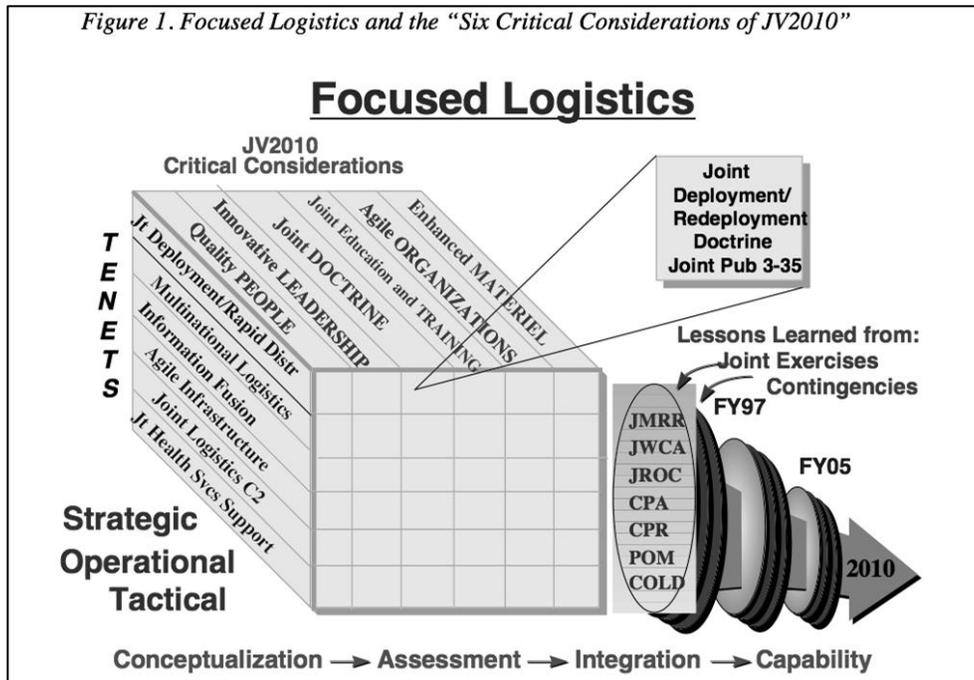


Figure 2¹¹

Calling this document a roadmap may be a bit of a stretch. In terms of actually being useful as a guide for the route or direction we need to take is arguable at best. It arbitrarily mentions ideas such as leveraging key enablers to achieve information superiority and technological innovation as desirable goals, but clearly, this was general guidance, perhaps a Joint Logistics Vision, instead of a guide to follow to arrive at Focused Logistics. Figure 2 is more visionary in its approach and depiction to accomplish the things Focused Logistics aims to achieve instead of a clear path of actionable goals.

Up to this point in logistics transformation, since the Army effort began in 1994, most of the concrete work and effort in sustainment transformation was in redesigning the logistics elements of the Divisional maneuver and engineer battalions. Additionally, they also accomplished reorganizing the structure of the Division Support Command headquarters as well as changing the subordinate battalions from functional to

multifunctional battalions during this timeframe. The Combined Arms Support Command was simultaneously working the development and introduction of new logistics doctrine and the expansion of the initial Focused Logistics combat service support concepts from the original eight to twenty-two, which exponentially increased the complexity and challenge of achieving a revolution. CASCOT also identified eighteen materiel enabling and experimental systems as well as developed the procedures and techniques necessary to support a digitally enabled force over a widely distributed battlefield. A National Training Center rotation validated these changes in the Divisional logistics force structure, with some minor redesign requirements based on feedback from the soldiers on the value of the enabling and experimental logistics systems. The rotation also validated the need for refinement of procedures and doctrine in the areas of logistics security, movement control, and most importantly direct support relationships.¹²

This brief period in the mid to late 90s showed veiled progress in the development of new concepts, accompanying doctrine, and the subsequent experimentation and training. Although not very substantial, that period produced the most meaningful progress in terms of actual logistics transformation and the associated conceptual work up to that point. In the January/February 1999 edition of *Army Logistician* the Army's logistics leadership triad, the Commander of Army Materiel Command, the Army Deputy Chief of Staff for Logistics (G4), and the CASCOT Commander coauthored an article, that, for the first time since the Army's transformation effort began in 1994, logically articulated the way ahead for logistics transformation. The Army's three senior logisticians addressed the logistics community in a single voice with a unified message.¹³ Published in the same issue were the

aforementioned article by Chief of Staff of the Army and an additional one by the Commander of the Defense Logistics Agency.¹⁴

These articles identified Army logistics transformation priorities and direction for the next decade and set us on a path for improved and streamlined logistics support to the warfighter or, as stated by General Reimer, a revolution in military logistics. The Army's logistics transformation plan would "focus on exploiting improvements in automation, communications and business practices, reshaping command and control relationships to provide better unity of command, and purchasing distribution technologies that facilitated rapid throughput and follow on sustainment." The second wave of logistics transformation, from 2010 and beyond, would "focus on maximizing emerging technologies that could be used to reduce support requirements, to enable them to be projected faster, and to reduce the overall demand for logistics."¹⁵ The Army also named its tenets needed to frame the efforts in the achievement of Focused Logistics. These tenets were a seamless logistics system, distribution based logistics, agile infrastructure, total asset visibility, rapid force projection, and maintaining an adequate logistics footprint.¹⁶

This single edition of *Army Logistician* produced the most substantial and meaningful vision, guidance, and direction pertaining to Army logistics transformation since the total Army effort began in 1994, almost five full years. In just a few short years, combat operations in the Afghanistan would test these efforts in the truest sense possible. More importantly, in less than a year the new Chief of Staff of the Army would turn this plan on its head.

An important disparity existed at this time between the Joint and Army transformation initiatives that is important to note. The Army did not include Joint Theater Logistics Command and Control, Multinational Logistics, and Joint Health Services Support as part of their concept. This is significant because it reveals that priorities between the Joint Staff and Army were not in consonance; the result being that the unity of effort, and perhaps the priority for resources and adequate visibility, in making Focused Logistics a reality were possibly on different paths across the service and joint staff. Important among these is Joint Theater Logistics Command and Control as it is a vital area where transformation can have one of the greatest effects in the effort to revolutionize logistics. The recommendations for the way ahead will cover this in detail.

The Tides of "Further" Change: Joint Vision 2020 and the Army's New Direction

In late 1999, as Logisticians were refining the transformation effort in sustainment, the new Chief of Staff of the Army, General Eric K. Shinseki, introduced a new vision creating a new challenge for logisticians. The new direction turned away from the redesign of the heavy force expressed in Force XXI and concentrated on General Shinseki's new vision where he outlined the challenge for logisticians. "Attaining enhanced strategic responsiveness requires transforming our logistics concepts, organizations, technology, and, most importantly, our mindset."¹⁷ While it did not sound very different or too difficult, logistics transformation's focus was now on how that transformation could enable strategic responsiveness.

In his vision statement, General Shinseki outlined strategic responsiveness as meeting the deployment timelines of one brigade in 96 hours, a division in 120 hours, and five divisions in 30 days. The Army's new focus would be on the development of an

interim force that had the qualities of both heavy and light formations. Speed and weight became the metric for this new context; the force had to deploy more rapidly and it had to have a significantly decreased logistics footprint. Almost concurrent with this shift in Army transformation, the Chairman of Joint Chiefs of Staff published an update to *Joint Vision 2010* entitled *Joint Vision 2020*. Initially, the basic concepts of Focused Logistics, the focus areas in the first and second waves and the six tenets of logistics transformation, did not officially change with this new guidance. However, the Army did use a different approach in providing this new direction and construct.

The Army made a significant adjustment to the essential foundation of logistics transformation with regard to the interim and objective forces. By requiring fewer units to deploy into an area of operation and make deployment more rapid, a significantly reduced forward footprint would now be the promise of logistics transformation. The Army looked to take advantage of reach back capabilities; a concept later termed “Combat Service Support (CSS) reach,” to enable this smaller logistics footprint.¹⁸ It would be three years before logisticians gave new meaning to Army logistics transformation or publish a definition for CSS reach.¹⁹ As it turns out, this term was simply a combination of transformation initiatives such as split-based operations, velocity management, information superiority, and distribution management.²⁰

The development of combat service support strategies and concepts for the Stryker Brigade became the Army’s main transformation effort from 2000 to 2002. CASCOM shifted away from the FORCE XXI, which was in its final stages of fielding and preparation for its capstone exercise. This change of direction caused CASCOM to rework the maneuver doctrine and organizational structure for the new construct,

essentially leading them to restart the efforts they had been working on for many years. Transformation of combat service support focused on a redesign of the existing battalion structure into a Brigade Support Battalion in conjunction with the new design of the independent brigade combat team. Additionally, figuring out how to leverage CSS reach was another key focus area. The redesigned logistics organizations and new concepts were deemed insufficient, for the most part, during a National Training Center rotation. Providing sustainment for the brigade presented substantial challenges. Comments centered on shortcomings in timely delivery of supplies, logistics connectivity, asset visibility, and information fusion.²¹

In the summer of 2002, the Joint Staff J4 published a revised *Focused Logistics Campaign Plan*. Published to correspond with *Joint Vision 2020*, this was simply an update of the previous campaign plan. The plan redefined Focused Logistics as, “doing logistics right. We will provide the future joint warfighter the right personnel, equipment, supplies and support in the right place, at the right time and in the right quantities across the full spectrum of military operations.”²² This plan introduced two new initiatives, “Logistics Transformation” and “Future Logistics Enterprise”, designed to establish a more robust foundation for achieving Focused Logistics. Optimizing sustainment business processes by improving real-time logistics situational awareness, developing a data system that delivers actionable logistics information, and enhancing the responsiveness of support operations to the warfighter was the goal of the first initiative.²³ The second initiative, described as a “mid-term vision (2005-2010) to accelerate logistics improvement, enhance support to the warfighter, and align logistics processes with the operational demands of the 21st century”²⁴, specified the direction

that Joint logistics would look at in the future. The attention was on improvements in maintenance, life cycle management of new systems, distribution management, and synchronization of deployment and sustainment.²⁵ The Army did not publish an equivalent document. However, many of the ideas such as Customer Wait Time, Time Definite Delivery, Total Asset Visibility, and the development of a Web-Based Shared-Data Environment were concepts described in previous work by the Army.²⁶

The *2004 United States Army Transformation Roadmap*, published in July 2004, contains the Army's most recently published reference to logistics transformation in the first decade of the twenty-first century. This document's usefulness in providing any significant change in direction or actionable transformational concepts is questionable at best. In the 106 pages of this report, only two are dedicated to logistics transformation. It is marginally useful in the sense that it describes how the Army sees Focused Logistics contributing in the context of current Joint Operating Concepts. However, this latest version of a logistics transformation roadmap still displays some of the earlier characteristics of guidance we saw over the previous years, mostly still visionary in that it is broad in scope and predominantly describes what we want but not how we get it. The most recently published Joint guidance at this time remained the *Focused Logistics Campaign Plan* from 2003. Finding a linkage between the "new" Army roadmap and the Joint campaign plan is difficult and leads one to assume the authors of the *2004 Army Transformation Roadmap* were not concerned with trying to match up these two plans. The *Transformation Planning Guidance* dated April 2003 describes the Department of Defense's latest vision of logistics transformation. It too, is broad in scope and more of

the same visionary stuff we have seen in the accumulation of documents produced in the ten years leading up to this point.

This is where logistics transformation has been and where it stood at the end of the last decade in terms of efforts, experimentation, doctrine development, concepts, and organizational change as well as what transformation was expected to deliver based on the Army, Joint, and DOD visions. This chronology, while extraordinary in its size and span, is in fact a condemnation of itself. It clearly shows how unsuccessful the Army was in achieving long-term change in providing sustainment, and most importantly, distribution operations. There has been substantial effort by many highly respected and visionary leaders. However, sustainment community leaders never embraced the vision of change, the means to empower it, and most importantly, the collective buy in, and commitment to achieve transformational change. After two decades of transforming, leaders envisioned numerous concepts and put forth many great efforts, but there has been marginal value added in achieving transformational change in logistics, the type of change the Army needs in order to achieve a revolution in military affairs.

Numerous reports, various papers, and significant articles presented over the past 10 years analyzing the early operations in Afghanistan and Iraq highlight countless examples of where logistics transformation fell short of the intended goals. It is not the intent, and beyond the scope, of this analysis to rehash those reports and add what would be limited additional value to the discourse. The intent of this piece is to show the large amount of guidance and direction issued by the Army leadership, the limited amount of revolutionary improvement made over the last decade, and optimistically

answer the question, what still needs to happen to truly realize a radical change in the distribution function of logistics?

Revolutionary or Evolutionary: Did We Accomplish DBL?

Looking back at the definitions of revolution and evolution presented at the beginning it is straightforward to determine that what we have seen over the last decade fits into the category of evolutionary. Retired Lieutenant General Mitchell Stevenson, former Deputy Chief of Staff G-4 of the Army, clearly points this out. “Despite all that has been accomplished since we introduced the Revolution in Military Logistics, 2 wars and 32 deployments have somewhat slowed some of the transformation that had been envisioned a decade earlier, making the “revolution” more of an “evolution.”²⁷ This is not to infer that what we have seen is bad or has not made us better at conducting logistics operations in support of the Army; however, it certainly does not meet the intentions of General Reimer when he declared a revolution in military affairs cannot be achieved until we achieve a revolution in military logistics.

Much of the evolutionary change we have seen over the past 10 to 12 years has been truly remarkable and significantly improved distribution. The CASCOM Commander and Army’s Chief of Transportation point out that significant accomplishments and changes over the past 16 years have dramatically changed the Army. “Consider our Army in 2012 as compared to the Army of 1996—ponder the changes to strategy, DOTMLPF, and policy that occurred over those 16 years. Today’s Army is completely different than what it was 16 years ago...We have accomplished much.”²⁸ Nonetheless, we have not reached a point where those changes have or can lead to revolutionary changes in military logistics. It is important to note that this must

also mean we have not achieved a revolution in military affairs either if you subscribe to General Reimer's theory.

A significant portion of the failure to achieve transformational change in sustainment is attributable to the inability of the leadership over the years to articulate definitive and tangible goals to achieve revolutionary change. This is not an indictment on the leadership; as mentioned earlier many great leaders have been pushing this effort through difficult and challenging times. Better continuity from one leader to the next could have mitigated the multiple changes in focus and direction each time a senior leader changed. Additionally, logistics innovation is typically towards the bottom of the priority list when it is time to make decisions about where to spend limited resources. Indeed, this period spans multiple administrations and differing National security strategies as well as the challenges that transforming while conducting major operations place on the process. However, articulating to both those who have to carry out the change as well as those who must ensure it is resourced is the direct responsibility of those leading the change. They must communicate a clear vision and direction for transformational change to occur.

It does clearly point out that it is much easier to talk about visionary and revolutionary change than it is to accomplish it. Former Harvard Business Professor John P. Kotter postulates in his 1996 bestselling book *Leading Change* that being able to change an organization is hard and those leaders who successfully transform businesses do eight things right.²⁹ These eight things relate to the eight steps outlined in his *Eight Steps to Transforming Your Organization* (Figure 3).³⁰ Managing change in the military, or any government agency, is not comparable to commercial business; but

certainly, the Army's, as well as DOD and Joint, leadership could have taken a lesson from Kotter before embarking on transformation efforts. It is arguable that the Army leadership barely scratched the surface on these eight steps and completely missed the mark on the final two steps. Coincidentally, Army transformation began at the same time Kotter produced his model and theory.

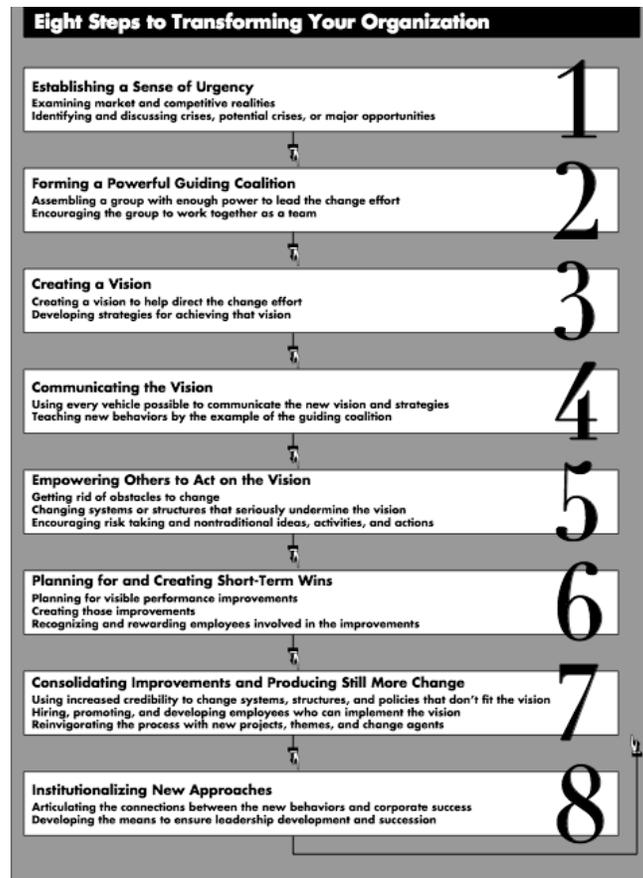


Figure 3³¹

With Kotter's eight-step model in mind, the Army needs to continue the path of evolutionary change, or adaptation, in concert with step six, creating short-term wins. However, there must be a plan for moving towards steps seven and eight. We could not afford to wait for revolutionary change over the past decade as ongoing operations dictated the need for immediate improvements. Fulfilling the needs of the deployed units

took precedence over waiting for revolutionary change. As we have seen the end of operations in Iraq and are into the final two years of significant force levels conducting the majority of operations in Afghanistan, perhaps now is the right time to start consolidating the short-term “wins” over the past ten years and produce more “wins” that will lead to institutionalizing new approaches.

The current Army sustainment leadership should take a close examination of what “transformation” has occurred over the past 10-12 years, determine the short-term “wins”, and translate those into future institutional gains that will bring about true transformation. There was a great deal of value and insights revealed through the Force XXI and the Interim Force experiments and design. Additionally, while they have reached or are approaching a decade old, the insights learned from the initial year and most significantly, the first few months of operations in Afghanistan and Iraq are the most recent real-world experiences.

The leadership should carefully weigh these to determine if there is relevant value to the changes we have made in light of those significant experiments and operations. We must then harness the gains of those that have long-term value or cut our losses with those of no value. “Over the last decade, logistics organizations, processes, tools, and technology have witnessed significant adaptation, which has created a continuum of momentum that makes the next level of adaptation more readily apparent.” The Army must create an updated, viable, and clearly achievable roadmap with accomplishable, concrete steps for revolutionary change to carry us through the third decade of this century. “As we move forward, we will continue to seek capabilities that satisfy the Soldiers’ needs and help us to better manage the uncertainty that will

continue to characterize current and future operations.” Business as usual in creating great visionary change without tangible gains cannot be the way of the future.³²

The cornerstone of logistics transformation and the Focused Logistics concept is ensuring the delivery of the right stuff, to the right place, in the right quantity, and at the right time, or in other words, achieving distribution-based logistics. It all begins on the front end of operations in synchronizing the deployment and distribution of forces, material, and supplies to deter, and if necessary defeat, any aggression against the United States or our allies anywhere in the world. The President and Secretary of Defense underscored this a year ago in their strategic guidance. This concept works well in theory and it offers great advantages. Commercial industry has perfected it for the most part and the military has been successful with it in small-scale situations. The focus now needs to be on how to make it work for large operations, like those in Afghanistan and Iraq, at the onset of deployment and during the initial phase of deep combat operations.

Distribution-based logistics is a very difficult and hard process. The establishment of a systematic process that enables a unit to order something, “see” it through the distribution pipeline, and have virtual certainty that it will arrive to them at the right time is the critical feature of the system. Currently we have a system that is incongruent and broken, “Distribution operations are managed by a variety of disparate joint and service organizations, and their efforts are not adequately synchronized. As a result, distribution operations are not managed for effectiveness, stock holdings are larger than they could be, and delays occur that adversely impact distribution.”³³

The technology exists for the military to provide that level of detail and information about their equipment, material, and supplies. The reality is that during the onset of combat operations this level of connection to the cyber world, enabling that level of visibility, is usually not possible. Very small aperture terminal (VSAT), satellite technology has significantly improved that capability over the past decade. However, it is still difficult to employ this technology in a dynamic and constantly changing environment like experienced in the first month of Operation Iraqi Freedom.

With that in mind, perhaps, flexible tailoring of how we execute distribution-based logistics at the front end should lead us to adapt the system to a small-scale supply-based system imbedded into the overall distribution-based system. Many innovations in technology have enabled a semi transition to a distribution-based vice the supply-based system that consisted of large stockpiles of supplies to cover initial operations. Unfortunately, no technology available can mitigate the fog and friction of war so it is incumbent upon the logistics community to develop a flexible system that can reduce the unnecessary requirement for enormous lift capacity for supplies and logistics units but still provide the necessary materials for the combat force to dominate initial operations. This system will involve some risk, but the level of risk and efficiency should be commensurate with overall risk the commander is willing to place on the success of the operation.

Revolutionary Change in Distribution and Projection

In March 2012 the CASCOM Commander, Major General James L. Hodge, and the Army's Chief of Transportation, Brigadier General Stephen E. Farmen, published a paper entitled *The Path to 2028 Distribution White Paper*.³⁴ This paper is a thought provoking piece that foreshadows the future distribution environment and requirements

and the solutions to address them through envisioning scenarios in the period of 2028. What this paper covers looks even more improbable than the changes proposed in the transformation guidance and vision transmitted between 1994 and 2004. However, the types of changes they envision are what the very definition of revolutionary describes and we are at a point where we have an opportunity to make these changes a reality. The challenge now is for those changes to become the much-needed revolution in military logistics, a revolution we have been desperately chasing for over a decade, and not just another paper for someone to comment on in 10-15 years.

In order to achieve a revolution in military logistics the Army leadership must be committed to a path of change that will allow scenarios like those in *The Path to 2028 Distribution White Paper* to become a reality in the next 16 years. Concepts like the Shipboard Dense Pack Access Retrieval and Transit (DPART) system, “smart” containers, molecular manufacturing through direct digital manufacturing (DDM), unmanned aerial system (UAS) cargo delivery vehicles, and maneuver enhancement vessels (MHVs)³⁵ are the types of transformational changes that will lead to a revolution in deployment and distribution. This will greatly facilitate the merging of the movement and maneuver and sustainment warfighting functions to enable immediate employment of forces that will be required in an anti-access area denial environment outlined in strategic guidance.³⁶ The possibilities are unlimited, but putting them into a plan of action vice a roadmap to ensure we set a path now for attaining the necessary steps required to reach step eight in Kotter’s model for organizational change must become a reality.

As noted earlier, *Joint Vision 2010 Focused Logistics, A Joint Logistics Roadmap* outlined six tenets with Joint Theater Logistics Command and Control being one of the six. Combat operations over the past 10-12 years have highlighted the need for this type of sustainment command. In the March/April 2004 edition of *Army Logistician*, retired Colonel Larry Harman presented 'The 'Short List' for Achieving a Logistics Revolution.' The first item on his list was creating what he termed, "one national-level command that is responsible for projecting and sustaining its military forces. To put it another way, a requirement exists for one deployment, sustainment, and distribution process owner who is a commander and not just a staff principal."³⁷ Seven years later this was pointed out again as a deficiency we need to address in order to move towards a revolution in military logistics, "No standing joint logistics organization can command and control logistics and theater distribution operations at the operational level in the theater in support of the regional combatant and joint force commanders."³⁸

In order for the distribution process, and sustainment in general, to attain the speed, precision, and flexibility required in DBL, command authority to execute changes in dynamic and emerging requirements must reside with a single command authority. As it exists today, U.S. Transportation Command only has "process ownership" insofar as ensuring the delivery from factory to foxhole of the item ordered by the organization that ordered it, not being able to redirect that shipment if a higher priority requirement emerges. Harman accurately postulates, "It would contribute to the emerging deployment-employment-sustainment warfighting continuum that acknowledges a distinct blurring among the levels of war, force projection, force employment, and force sustainment."³⁹ The remainder of his analysis in 2004 was accurate then and even more

so now, especially as we face the difficult challenges presented by our adversaries prone to using anti-access area denial techniques against us. Additionally, the fiscal constraints we face as a Nation require us to figure out how to provide the sustainment warfighting function to the entire Joint force more efficiently. Business as usual in providing sustainment for Joint, Interagency, Intergovernmental, Multinational (JIIM) operations cannot be the way of the future.

Conclusion

While it can be argued that Army transformation has been constant and ongoing for the past two decades, it is apparent that the change we have seen has truly only been evolutionary in nature for the sustainment community. Most of what has come about over this period has been adapting new technologies, improved process, and a basic reorganization of sustainment organizations to match the Army's modular Brigade Combat Team redesign. In many cases, we have simply rearranged organizations and called it transformation. Dr. David A. Anderson and Major Dale L. Farrand postulated in 2007 that what we have seen has been "logistics evolution, logistics reaction, or logistics adaptation."⁴⁰ Five years later, their analysis still serves as the best conclusion for the Army's transformation efforts in an attempt to achieve a revolution in military logistics.

Now is the time to harness the initiative and break new ground with Army logistics transformation. We certainly are in a time when the choices we make with the resources available will be very difficult. However, placing the necessary changes in the Army sustainment warfighting function at the bottom of the priority list cannot continue, we must invest in the technologies and equipment that will finally allow us to realize revolutionary change and enable us to meet the challenges of the twenty-first century.

Senior Army leadership must create the environment and set the conditions for us to succeed. In his cover letter to the January 2012 strategic guidance issued by the Department of Defense, President Obama said, “The fiscal choices we face are difficult ones, but there should be no doubt – here in the United States or around the world – we will keep our Armed Forces the best-trained, best-led, best-equipped fighting force in history.”⁴¹ The logistics community must articulately state the case for ensuring the placement of the distribution function of sustainment at the top of the list of priorities when it comes to equipping our force in order to ensure we remain the best-equipped fighting force and finally realize a revolution in military affairs by achieving a revolution in military logistics.

Endnotes

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