TRAINING FOR TRANSFORMATION: WHEN SHOULD THE U.S. ARMY TRAIN MULTIFUNCTIONAL LOGISTICS?

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ABSTRACT

TRAINING FOR TRANSFORMATION: WHEN SHOULD THE U.S. ARMY TRAIN MULTIFUNCTIONAL LOGISTICS? by MAJ Christopher L. Day, USA, 72 pages

This study acknowledges the importance of multifunctional logistics proficiency to support the revolution in military logistics required to realize the Army's transformation to the Objective Force. To this end, this research analyzed the optimal career timing for multifunctional logistics training for the commissioned officer corps. Continual support structure evolution and technological advances have blurred the division of functional logistics responsibility resulting in a support structure that relies heavily on multifunctional logisticians.

In an effort to determine the ideal career timing for multifunctional logistics training, this study examined the historical trends that have illustrated a requirement for increased proficiency in all facets of logistics at increasingly lower ranks. Specifically, transformational forces (Digitized Division and Stryker Brigade Combat Team) generate requirements for this proficiency at the company-grade ranks. This research also surveyed the opinions of logistics officers in various ranks to determine the logistics community's perceived educational requirements and necessary changes to the current officer education system.

Based on the doctrinal evolution of logistics structure and manning that fosters a requirement for multifunctional logistics abilities in junior company-grade officers, and the conclusions drawn from a logistics officer survey, multifunctional logistics training should be trained upon initial entry at the officer basic course.

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CHAPTER 1

DEFINITION OF THE PROBLEM

Introduction

"There will not be a revolution in military affairs unless there is a revolution in military logistics" (Peters 2002, 1). Former Chief of Staff of the Army General Reimer identified that a revolution in military logistics (RML) is a critical precondition of the revolution in military affairs (RMA). This quote rings heavy in the ears of Army logisticians and functions as a motivational logistics battle cry and catchy buzzword for Army transformation. However, many leaders and logisticians alike believe in future capabilities and systems realized through research, development, and technology as the cure-all for all logistics woes.

> The revolution [in military logistics] will occur only after our research community provides us with combat equipment that minimizes the logistical tail needed to sustain it. (Fontaine 1998, 2)

Although a component of the RML, systems that reduce the requirements for logistics demands do not constitute the true revolution that must occur to support the RMA and Army Transformation. The reduced demands for logistics support may contribute and facilitate the RML, but they do not constitute it. Contrary to this perceived requirement for a technological panacea for the RML in outlying years, it must be possible to develop much of the Objective Force logistics structure before the Army fields the new suite of ultra-reliable and interoperable weapon systems and capabilities. Additionally, many units will retain the legacy and interim systems throughout the years of transformation to the Objective Force. The RML must support the entire Army; it must

not be effective and applicable only when supporting the new systems. The Army will only reach a RML through the application of parallel advances in doctrine, training, leader development, organizations, material and soldiers (DTLOMS). As outlined in the Chief of Staff of the Army's white paper, "Concepts for the Objective Force" (2001, 15), the integration of the technological advances with human capabilities through a combined DTLOMS process is critical to the successful realization of transformation. By analysis of the "ideal" logistics officer structure and capability, the researcher addresses four of the six DTLOMS as they affect the transformation for the RML: doctrine, training, leader development and organizations.

Proposed Statement of the Problem (Research Question)

When is the optimal time for the Army to train officers as multifunctional logisticians to support transformation to the Objective Force? This research will acknowledge and authenticate the need for multifunctional logistics and investigate the career timeline that an officer requires to perform the multiple Combat Service Support (CSS), or logistics, capabilities in the transformation to the Objective Force.

Background of the Problem

There has been significant discussion, formally and informally, about the potential benefits of combining the major logistical branches (Ordnance, Quartermaster, Transportation, Medical Service, and Aviation Maintenance). The general consensus is that a "combined" Logistics Corps would better support the contemporary ideal of leveraging distribution-based logistics and enhancing current CSS to Army forces. The ultimate goal for the supporters of the merging of logistical branches is to institutionalize a multifunctional logistics ability and capability within the officer corps. Dusterhoff

proposes an added by-product of this program as projected cost savings associated with combining the officer corps of these branches, specifically, by combining the Officer Education System (OES) programs. Additionally, changes in force structure and concepts for Army Transformation continue to push requirements for multifunctional proficiency to more junior officers (Dusterhoff 2002, 40). The current OES does not begin formal multifunctional logistics training until the Captains Career Course (CCC) and does not recognize an officer's multifunctional capability until awarding a Functional Area designation as a senior captain. This void in multifunctional logistics proficiency by the commissioned officers who plan and synchronize support to the Army's transformational forces reinforces the requirement to optimize OES to support this requirement. However, the equipment and organization of Objective Force units and its support structure are in the initial development phase; the end state will not be realized for at least a decade. The logistics community is challenged with designing a "bridge to the future" to support the RML required for the RMA.

Research Objective

An analysis of support trends through interim organizations and initial Objective Force structures and characteristics can determine if multifunctional logistics capability is a better platform for the revolution of military logistics required for transformation, and how the Army trains this skill. This is in contrast to current OES methodology in which each branch controls development and exploitation of functional capabilities as the true subject matter experts in their fields for the training of their junior officers. This research intends to acknowledge and authenticate the need for multifunctional logistics and investigate the optimal time that an officer is trained to perform the multiple Combat

Service Support capabilities in transformation to the Objective Force. The researcher will determine whether multifunctional logistics training for junior CSS officers will better support the transformation process to an Objective Force logistics support structure. Additionally, the researcher will determine where in the career path of a logistics officer can this training be most beneficial to support transformation. An analysis of the CSS characteristics of logistics support as outlined in FM 4.0, *Combat Service Support* (2001, 1-4), will provide a means to evaluate the benefits of the functional logistics branches' junior officer training programs compared to a combined multifunctional logistics officer basic course. These characteristics are: responsiveness, simplicity, flexibility, attainability, sustainability, survivability, economy, and integration. Specifically, the researcher will use the Digitized Division (Force XXI or Limited Conversion Division-LCDXXI) and Stryker Brigade Combat Team (SBCT) (formerly Interim Brigade Combat Team-IBCT) CSS support methodologies to generate the basis for comparison of requirements for the Objective Force.

In an effort to reinforce the analysis, the researcher will incorporate the initial working documents and combat developments of the Objective Force logistics structures, capabilities, and requirements. This information is based on the deliberate work being conducted by the Combined Arms Support Command (CASCOM), the proponent for "maneuver sustainment" of the Objective Force. Although evolving in concept, the information will attempt to leverage current developments throughout the research timeline.

Secondary Research Questions

Question One: Based on current, interim and anticipated CSS personnel manning structures, who will be Objective Force logistics planners or managers? The intent of this secondary research question is to demonstrate a historical analysis and rational trend towards a required logistics capability. The literary review presented in chapter 2 illustrates that the evolution in the nature of war fighting from Army of Excellence (AOE) to the Digitized Divisions (FXXI) and Stryker Brigade Combat Team (SBCT) has generated a consistent requirement for logistics. The answer to this research question will reinforce the need for multifunctional logicians and determine the personnel requirements.

Question Two: What will be the logistical support characteristics? Some initial capabilities with relevance to this research are: the level of experience (officers) for multifunctional logistics capability, level of command or staff control of logistics, centralized or decentralized logistics management and redundancy, experience required for multifunctional logistics integration, ability to integrate CSS with tactical operations, as well as determining requirements for external augmentation and coordination. Definitions of the CSS characteristics outlined in FM 4.0 will characterize the illustrations of the literary review.

Question Three: What capabilities must a logistics planner or manager possess to support the Objective Force (OF)? The researchers rationale for this question was to determine the experiential level and developmental requirements for officers supporting the OF. Chapter 2 documentation will illustrate a cursory skill set required for these

officers. Survey questions will attempt to isolate and evaluate the critical skills and competencies.

Question Four: When can the Army optimally train these skills and competencies? This question will address the fundamental inquiry of this research topic. The first three secondary research questions develop the personality, capabilities, and attributes required of the OF logistics officer. This question will, in turn, evaluate the officer education system and the officer personnel management system (OPMS) in the efficiency of developing the attributes determined in the initial research questions. The researcher's intent for this question is to determine if the DTLOMS functions of doctrine, training, and leader development support the transformation as it applies to logistics officers. This evaluation will provide the documentation required to develop a recommendation for optimizing multifunctional logistics training.

Assumptions

The critical assumption in this research is that historical analysis of capabilities, requirements, trends, and responsibilities is an accurate representation of Objective Force roles and duties. Although technology will change many aspects in the nature of warfare, logisticians will still be needed to support tactical operations.

Additionally, logisticians will continue to be groomed in a professional education and development system through institutional, operational, and self-development programs.

Scope and Delimitation

Although the concepts and arguments offered in this research are applicable across the gamut of U.S. Army organizations, the focus of comparison and literary review is on "heavy" divisional organizations (armored and mechanized).

This research will not consider aviation logistics and medical services multifunctional logistics attributes and specifics within the context of developing an effective argument for the research questions. Although extremely critical and applicable, relatively small populations of these branches elect to become multifunctional logisticians. The unique requirements and peculiarities of these aspects of the Functional Area 90 would complicate the true issue. Analysis is concentrated on three "core" logistics branches of Ordnance, Quartermaster, and Transportation when analyzing secondary data.

Logistics, often synonymous with CSS, will only refer to the "core" logistics branches and capabilities. Recently changed doctrine outlined in FM 3.0 and FM 4.0 replaced the term "logistics" with CSS and expanded the subordinate functions to also include human resources support, financial management operations, religious, legal, and band support. These functions are not addressed in this research.

Additionally, this study will address the commissioned officer corps and applicable aspects of their professional education and preparation only. The scope of this research could not hope to address the entire personnel development systems required for Transformation to the Objective Force for officers, warrant officers, noncommissioned officers (NCOs), and enlisted personnel. As the requirement for multifunctional logistics capability increases, by definition, the officers become greater generalists; the soldiers and warrant officers must remain the functional experts (Haufe 2001, 11).

Importance of the Study

The Army's RML has and will continue to incorporate new doctrine and methodologies revolving around supporting tactical forces by leveraging the advantages of distribution-based logistics. These forms of logistics support, which will dominate on the battlefields of the future, generate a demand for significant changes in the CSS leadership that will provide this capability. Recent discussion and subsequent research as to the necessity of combining the logistics branches orchestrates the true desired end state and requirement, multifunctional logistics proficiency within the commissioned officer corps. The Army's doctrine, training, organization, and leader development must support the RML requirements for logistics officers. This research will determine the optimal timeline for multifunctional logistics training to support transformation to the Objective Force.

CHAPTER 2

LITERATURE REVIEW

General Background

The logistics support of maneuver elements in the U.S. Army has changed significantly and continues to be in a metamorphosis. An example of this change can be illustrated in the evolution of terms applied to the logistics capability itself. Within the timeline of the past five years, the term "logistics" from FM 100-5, *Operations*, changed and expanded under definitions outlined in FM 3.0 and FM 4.0 to "Combat Service Support." CSS is a broader term referring to previously defined logistics capability as well as encompassing human resources support, financial management operations, religious, legal, and band support. In pursuit of supporting the Objective Force outlined in the Army white paper and further expansion upon the FM 3.0 definitions resulted in "maneuver sustainment" as the sound byte representing this capability. Although "maneuver sustainment" incorporates all elements required to support the war fighter, logistics is a major subset of this term. The terminology changes in and of itself are only representative of a small fraction of the current and proposed changes in military logistics.

Historical Background

The logistics structure has been in constant evolution since the establishment of a colonial Army during the United States Revolutionary War. Specific functional areas, branches, were established as their need and requirements were identified or as technological advances dictated their incorporation into the overall scheme of warfare.

Until the past ten to fifteen years, these branches were concerned primarily in their specialized area of responsibility. Requirements for supplies and equipment needed to prosecute war changed with the changes in the evolution and character of war. Consequently, a modernizing of military operations reflected a development of new weapons, vehicles, food preparations and materiel of all kinds. While some requirements were replaced with more efficient or effective equipment and systems, over time, the evolution of essential war-making systems generated continually increasing support requirements. Until very recently, Army modernization meant the development and use of heavier artillery weapons, more automatic weapons with higher rates of ammunition consumption, and the increasing use of heavier tanks and trucks on which modern mobile warfare depended (Shrader 1997, 3:192). The advents of these new systems generated a requirement to stock, supply, maintain, service, and resupply the units using these tools of war. The U.S. Army's Legacy forces essentially build the weapon first and the logistics and support structure requirements followed. Based on support requirements generated over time and the development of mobile and then mechanized forces, several key logistics functions evolved to what are generally referred to as the core logistics branches: Ordnance, Quartermaster, and Transportation.

Advent of Multifunctional Logistics

Arguably, logistical reform initially began with the advent of "multifunctional" battalions, Forward Support Battalions (FSBs), Main Support Battalions (MSBs) and Corps Support Battalions (CSBs), which replaced "functional" Supply and Transportation (S&T), Medical and Maintenance Battalions (FM 29-30-1 1976, 2-4) resident primarily within the maneuver divisions. These new organizations were responsible for all logistics

requirements and synchronization with habitually supported units at lower maneuver echelons (Brigade versus Division or Corps). These new support organizations were reflective of the reduction in force and began an economy of assets focused on the new concept of “forward support.” Although this represented a significant change in organization and capability to support smaller maneuver elements, a lack of responsiveness and integration necessitated the need for redundant stockpiling of assets that limited mobility and further exacerbated support capability. Termed supply-based logistics, the U.S. Army continued to mass large quantities of supplies at multiple echelons creating large stockpiles to eliminate any chance for logistical shortfalls. Although very effective in past conflicts, it is extremely inefficient, time consuming, and labor intensive. The researcher offers the example of Operation Joint Endeavor in Bosnia, reinforced by lessons supposedly already learned in Desert Shield and Desert Storm. During this operation thousands of containers arrived in the area of operation (AO) without any visibility of contents, priority, or routing resulting in outrageous processing times. This, in turn, resulted in many reorders, further compounding the backlog. Additionally, there was limited visibility of parts or commodities already located in stockpiles or enroute to the AO by adjacent units. This lack of information visibility, readily available in civilian applications (Federal Express and United Parcel Service) fostered another evolution in logistic support. Leveraging “distribution-based logistics” has become the contemporary mindset resulting in smaller stockpiles and greater confidence in logistics systems and support.

A secondary effect of the shortfalls of supply-based logistics methodology was the realization that the key element logisticians lacked was information to provide

efficient support. Specific information regarding quantities, location, disposition and availability of required commodities and transportation assets was not available to one person or agency with the ability or authority to use it. Several systems were available to provide “functional” information of specific commodities, but a coherent and usable tool for managing logistics was not readily available. This issue led to the development of distribution-based logistics and systems that used technology and civilian management concepts such as supply-chain management and just-in-time resupply (Payne 2001, 4). This ability and added visibility blurred the delineation between several of the Army’s functional logistics branches, specifically, Ordnance, Quartermaster, and Transportation (Wagner 2000, 9). When compounded with the fact that the majority of tactical units transitioned to multifunctional battalions, the requirement for a multifunctional or “combined logistics” capability was identified. However, because of extensive additional requirements for functional logistics expertise (i.e., mortuary affairs, petroleum pipeline, transportation terminal operations, movement control, etc.) and political reasons, the core logistics branches were amiable only to the development of a generic “multifunctional logistics” functional area (FA 90) that coded positions within the multifunctional logistics battalions (FSBs, MSBs, and CSBs). The generation of the FA 90 specialty was a promising and productive step towards logistics integration and acknowledgement of multifunctional logistics proficiency requirements for officers (Haufe 2001, 20). However, the issue was that such positions did not require any specific demonstrated skills except to be in a logistics branch and it was not designated until the officers were senior captains. More concerning, these officers received no training to perform in organizations which required them to be knowledgeable in all the missions of the

subordinate companies: maintenance, supply, transportation, medical service, and field services (Wagner 2000, 13). Fueled by the fact that many logistics officers never serve in positions associated with their control branch, the issue of combining the logistics management of Ordnance, Quartermaster, Transportation, and Medical Service surfaced resulting in the development of formal schooling (Haufe 2001, 24). In 1993, the Combined Logistics Officer Advanced Course (CLOAC) was developed and designed to fill a leadership-training void for multifunctional logistics capability. Based on recent transformational changes and subsequent support structures, a leadership training void may continue to exist in the OES for logistics officers.

Need to Transform Logistics

A glance into the civilian sector to leverage and capitalize on developed technology has generated a significant change in the methodology of future war fighting. Compounded with a radical change in projected threat and continuing force reductions, a revolution in military logistics (RML) is critical to accomplish the revolution in military affairs (RMA) currently being pursued by the U.S. Army. In September 2002, General Shinseki reiterated former Chief of Staff of the Army General Gordon Sullivan's delineation of the criticality of logistics reform as a precursor to the RMA, "Without a transformation in logistics, there will be no transformation in the Army" (Peters 2002, 1).

The *Joint Vision 2020* calls for a rapid, strategically responsive force that can perform any mission on the future battlefield. This battlefield is called the contemporary operating environment (COE) and will most likely be characterized by close fighting in urban areas and complex terrain, a high volume of media coverage, many noncombatants throughout the battle space, and technological advancements (TRADOC DCSINT 2001,

3). Specifically, the Army must have the capability to deploy a combat brigade anywhere in the world in ninty-six hours. Subsequently, that will expand to a division in 120 hours and four additional divisions within thirty days. This concept and its requirements will rely on logisticians to deploy forces much more rapidly and to support those forces more efficiently and responsively once in theater. To realize this logisticians must determine how to reduce the logistics footprint while not sacrificing the buildup of combat power from lacking logistical support. To meet these challenges the Army began a transformation to an Objective Force through the multi tiered, simultaneous development of Legacy, Interim, and Objective force capabilities. Logistics officers will be challenged more than ever to provide support to transformational maneuver forces throughout the COE. The Army must properly train and prepare officers to accomplish this Transformation.

AOE Logistics Management and Structure

As previously discussed, the logistics structure in the Army of Excellence (AOE) evolved from functional support battalions (maintenance, medical, and supply and transportation) that provided support to division-sized elements (FM 29-30 1968, 2-4). The new AOE structure consisted of multifunctional logistics battalions (FSBs, CSBs) designed to support brigade-sized maneuver organizations with redundant and echeloned reinforcing support (MSBs, CSB(R)s). The evolution of these organizations focused on forward support to maneuver units through multifunctional logistics battalions consisting of functional companies of supply, maintenance, medical, and transportation (FM 63-2 1991, 2-5). The intent is that the different capabilities of these functional companies allow the multifunctional logistics battalions the ability to better support maneuver

elements across the full spectrum of operations. The significance of this improved organization is the organic stand-alone capability of the brigade combat team (BCT) with its habitual support battalion. As a result of this change, the requirement for logistics integration and synchronization was pushed down from divisional staff levels to brigade level staffs. The FSBs (and CSBs) function as the focal point, or a centralized logistics planning staff, for all logistical capabilities and requirements to support a brigade. Dusterhoff surmises the significance of this ability:

> If any strategic, operational, or tactical plan is to be successful, the force commander and his logistics officers must properly integrate the right amount and type of CSS into that plan. If not, a force may be compelled to achieve an undesired end state; it may be forced to culminate too soon or it may even experience a great number of casualties. Therefore, it is critical that versatile and knowledgeable logistics officers help the force commander to fully consider and execute CSS across the full spectrum of operations. (2002, 29)

Initially, no formal training existed to provide an institutionalized education to conduct multifunctional logistics integration with maneuver organizations. Perceivably, the extensive experience level of field grade officers providing this capability at the divisional level was adequate for the functional battalions' support to divisional assets. However, with the development of multifunctional battalions, the proficiency and capability based on experience was significantly reduced. The requirement for synchronization of these multiple disciplines was primarily resident at the FSB commander and support operations officer (SPO) level. The Support Operations Office within the multifunctional support battalions, typically run by a major, was responsible for managing CSS support for maneuver brigades by integrating and synchronizing capabilities against requirements from brigade and battalion S-4s. This new multifunctional organizational structure required logistics officers who were capable of

coordinating, synchronizing, and monitoring of the myriad of logistics functions without the advantage of a formal education to conduct these tasks. Recognizing this shortfall, the Army's logistics branches developed the Support Operations Course (SOC) and the Combined Logistics Officer Advance Course (CLOAC) to train captains and majors in capabilities and techniques for conducting multifunctional logistics support operations. Based on the organizationally generated manning requirements for multifunctional logistics management, these courses were developed to meet an operational void.

Although the advent of the multifunctional support battalions is reflective of evolutionary changes generated through the changes in maneuver warfare, these organizations were still supply-based structures with multiple, redundant capabilities and supply stockpiles. Even considering the enormous technological gains realized during the previous decades, the nature of logistics was relatively unchanged (Edwards and Eden 1998, 1). This is illustrated by the following example typical of a unit organized under the AOE: Maneuver companies maintain unit basic loads (UBLs), or unit stockpiles, for most classes of supply. Additionally, the parent battalion could maintain another echelon of stockages such as a prescribed load list (PLL) of repair parts. Subsequently, the maneuver battalion's habitually supporting FSB provides a direct support level of stockages in authorized stockage lists (ASLs) designed to support their brigade (and subordinate battalions) for most commodities and up to thirty days (FM 63-20 1990, 2-2). The FSB's direct support capability is reinforced with similar or increased capability and stockpiles located in the division's Main Support Battalion. If all of the echelons of divisional support organizations are unable to provide a requirement or commodity, back-up or reinforcing support can be provided by corps support battalions (CSBs) located in,

or behind, the division's rear boundary (FM 54-30 1993, 4-2). This multi echeloned stockpiling ensured readiness and support for combat units. Curiously, lack of confidence in logistics systems, in-transit, and stockpiled or warehouse information generated the perceived need for these redundancies. Subsequent gains in information technology, in transit and asset visibility began increased confidence in logistics support capabilities generating a diminished reliance on stockpiles. The Army became determined to increase capabilities and improve efficiency by exploiting information technologies leading to the development of the Force XXI division, now termed the Digitized Division.

Digitized Division Logistics Management and Structure

The Digitized Division's primary objective, logistically, is to gain and maintain the common relevant operating picture (CROP) by exploiting advanced information and transportation technologies and reducing unnecessary logistical redundancies and stockpiles. The division pursues this objective by embracing four critical CSS imperatives: unity of command, increased velocity, force agility, and situational awareness. The resulting streamlined and situationally aware organization reinforces a required paradigm shift to a distribution-based logistics system needed to reduce the "log footprint" while leveraging increased commodity visibility and velocity. FM 63-20-1, *Digitized FSB* summarizes:

> Using the Force XXI's enhanced digital logistical awareness and forecasting capabilities, CSS leaders at all levels must provide the foresight and responsiveness necessary to anticipate and maintain the division's operations tempo (OPTEMPO). Force XXI logistics will require new organization, new doctrine, as well as advanced distribution equipment and information technology. The Force XXI battlefield imposes new challenges on support functions and leaders, as it calls for independent logistical systems and procedures. (2002, 1-1)

As illustrated, the key concept is that new information technology provides the availability of real-time information that allows logistical planners and managers to make rapid decisions about the allocation of resources anywhere in the maneuver commander's area of influence or battlespace. The ability to use this information to generate accurate situational awareness and understanding eliminates the need for logistical stockpiles characteristic of supply-based operations and allows logistics managers to substitute speed for mass (Wagner 2000, 14). The digitized enablers allow logisticians to control destinations, diversions, speed, and volume to provide the responsiveness and anticipation necessary to maintain readiness and divisional optempo. These technological and organizational changes have significant implications on the technical abilities of logisticians performing these support missions.

Organizationally, the Digitized Division executed significant evolutionary changes based on a historical analysis. The shift from stockage or "supply" based to distribution-based logistics is most apparent in the logistical restructure incorporating the entire spectrum of logistics operations. Although the digital systems were necessary and facilitated this change, the true change in capabilities was realized through the organizational restructuring and consolidation of several end-user logistics assets. These changes are most pronounced and significant in the FSB's transition from an AOE to digitized organization supporting a maneuver brigade. The digitized FSB consists of a Headquarters and Distribution Company (HDC), a medical company, a Base Support Company (BSC), and usually three Forward Support Companies (FSC). The medical company's organization and mission remained relatively unchanged from the AOE configuration, whereas, the other companies perform multifunctional logistics roles. In

the digitized logistics organizations, the multifunctional capability has been pushed from the AOE FSB to digitized Forward Support Companies organized to provide all logistics support through habitual relationships with maneuver task forces (battalions). The logistics elements resident in AOE maneuver battalions were consolidated with direct support assets to form a centralized CSS organization providing all supply (all classes), food service, fuel, and consolidated maintenance (organizational and direct support). The company (versus AOE support *battalion*) has a resident Support Operations Section led by a lieutenant responsible for the integration, synchronization, planning, and monitoring of all CSS requirements and capabilities to support a maneuver task force. This new organizational structure enhances efficiency and effectiveness with the consolidation of all logistics planning, execution, and management within modular, multifunctional logistics companies providing direct *habitual* support allowing the task force commander to focus on his critical missions. The digitized organizational structure and increased technology create significant concerns for multifunctional logistics officer training and leader development at the initial entry/junior company-grade level. Wagner accurately articulates this shortfall:

> [Digitization], stressing modularity and multifunctionality down to the company level requires an unprecedented level of expertise in company grade officers . . .[and] also requires the assigned Lieutenants to have experience that transcends their basic branch. (2000, 38)

Of significant concern is that no formal military education exists to train these junior officers on abilities and responsibilities levied on field grade officers in AOE organizations. Additionally, the assumption that experience and on-the-job training can universally overcome this shortfall is optimistic, if not irresponsible.

The Digitized Division has made enormous advances to increase logistics *capability* and visibility through efficient reorganization to remove and consolidate redundancies. Additionally, technology and information system proliferation has allowed the Army to shift to a distribution-based logistics structure where the distribution pipeline itself is the logistical warehouse; speed replaces mass. However, this reorganization and information exploitation did very little to reduce the logistics *requirements*. In order to accomplish a significant reduction in tactical requirements, to realize a reduction in the logistics footprint, the Army must reduce or optimize the tactical systems consuming the logistics. This imperative was realized and when added to other significant forces, such as changing threat, strategic mobility, and lethality issues, resulted in the pursuit of a significantly different military organization initially called the Intermediate Brigade Combat Team (IBCT).

Stryker Brigade/Division Management and Structure (formerly IBCT)

The high frequency of contingency operations in the 1990s, which is expected to become even more prevalent the future, has sharply increased the significance of strategic responsiveness. Recent studies and analysis indicate that the more rapidly a force can respond to a crisis, the quicker the crisis can be resolved. In fact, rapid response by integrated joint forces can have a greater or equally significant impact on crisis resolution as a larger operational capability built up over a longer period of time (FM 4-93.7 2001, 1-1). Rapid response deters the enemy, reduces risk, constrains enemy options, expands the array of possible favorable outcomes, and facilitates rapid decision. In 1999, the U.S. Army began Transformation with the rapid development of the IBCT as a prototype organization with potential to significantly reduce the deployment timeline while

providing a mobile, survivable, and lethal combat force. The Digitized Division's CSS imperatives of unity of command, increased velocity, force agility and situational awareness are even more critical for the Stryker Brigade Combat Team (SBCT) structure and its logistics supporting BSB (FM 63-20-1 2002, 2-1). Unlike the Army of Excellence (AOE) or Digitized units, the SBCT may be called upon to act independently for longer periods of time, with no higher headquarters or augmentation in the theater of operations. Additionally, an evolution in combat is apparent using advances in technology. Unlike the AOE or even the Digitized Division, which attempts to gain battlefield awareness through maneuver or movement to contact, the SBCT develops situational awareness through advanced technology and then maneuvers its forces out of contact. Subsequently, the SBCT initiates contact at a time and place that is favorable to them and destroys the enemy with overwhelming firepower.

The structure of the IBCT falls between that of a light infantry BCT, and a heavy or mechanized BCT. The unit is austere and mobile like a light infantry BCT, with the capability to deploy anywhere in the world within ninty-six hours, yet, still provides enhanced protection to its members similar to heavy or mechanized BCTs. In reference to logistical support to the IBCT, the U.S. Army's Training and Doctrine Command (TRADOC) has stated in the Interim Brigade Operation and Organization Document (O&O Document):

> The core of combat service support (CSS) to the brigade is the Brigade Support Battalion (BSB). The BSB provides direct support to the brigade. The structure of the BSB is extremely austere, and as such, the BSB provides support in a manner somewhat unique to other support battalions in direct support of other brigades. The CSS structure and concept, support rapid crisis response, while enroute, and the delivery of tailored logistics packages and sustainment directly to the

> operational and tactical level via fusion of information, logistics, and transportation technologies. (2000, 1)

The BSB is designed to perform distribution-based, centralized CSS functions in accordance with Digitized Divisional concepts, although the distribution capability is very limited. The Brigade Support Battalion consists of a Headquarters and Distribution Company (HDC), a Brigade Support Medical Company (BSMC), and a Forward Maintenance Company (FMC) that rely on CSS reach operations and pre-positioned, augmentation, contracted, joint, and multinational support to meet the needs of the brigade. The BSB has a limited capability to distribute resources to brigade elements, so maximum use must be made of commercial support, joint, and intra-theater airlift assets.

This BSB mission presents a very difficult challenge for logisticians. The BSB has the dubious task of performing the same function as a heavy or mechanized brigade's Forward Support Battalion (FSB), which, "supports the brigade and reinforcing or supporting units by providing all classes of supply, as well as maintenance, medical, field services and transportation support in the amounts and at the times specified in the brigade service support annex" (FM 63-20 1990, 1-3). In contrast to the FSBs (AOE and digitized), the BSB has significantly reduced its personnel and equipment authorizations in order to facilitate reduction of the logistics footprint. This logistics force reduction when combined with the fielding of equipment to reduce logistical requirements facilitates strategic, operational, and tactical deployment. However, these reductions generate increased need for CSS management abilities within the logistics community supporting the SBCT, particularly the junior officers. In his presentation outlining the interim force's role to Objective Force realization, Major General Grazioplene stressed

the requirement for “greater multifunctionality” and reliance on “junior leaders [to shoulder] more responsibility” and accomplish more tasks with greater complexity (Grazioplene 2000, 8-9). This is especially applicable to the BSB’s logisticians supporting the SBCT.

The BSB provides logistics support to supported units using pulsed or surge resupply that must be integrated and synchronized with maneuver forces on an area basis. This is contrary to AOE and Digitized organizations that relied on habitual support relationships, which can limit the CSS planner’s ability to weight the commander’s effort and add to the potential for idle logistics. Based on the very limited capabilities of the BSB organically, these logisticians must leverage information management systems to develop an accurate situational understanding of the CSS statuses and anticipate requirements before they are actually needed. The Support Operations Section of the BSB is organizationally staffed (similar to the AOE FSB) with a Major as the officer-in-charge (OIC); all other logistics planners and managers within the BSB organization are company grade officers with little or no combined logistics training. Coupled with their relative lack of experience and the evolving SBCT doctrine, these officers have no solid multifunctional logistics doctrinal basis to build on (or deviate from).

Existing Studies and Research

The benefits of transitioning to distribution-based logistics have resulted in significant reduction of the logistics footprint, a critical enabler for the Army’s Transformation (Haufe 2001, 4). This transition from supply-based to distribution-based logistics fosters an organizational and methodological shift towards multi capable and multifunctional logistics officers in order to facilitate the RML required for the RMA.

The essential element to affect this transition is relevant information available to the terminal guidance logistics managers. Additionally, the structural and organizational changes that focused on the elimination of echeloned logistics and the consolidation of capabilities further reinforced the need for multifunctional logisticians (Dusterhoff 2002, 36). These officers must be qualified in integrating all aspects CSS including anticipating requirements and balancing capabilities of the unit's support assets. Several studies have been conducted outlining the importance of this multifunctional capability as illustrated in an argument for a combined logistics branch. The researcher will outline arguments presented in previous research to acknowledge the need for "combined logistics" capability.

The previous studies referenced did not specifically address the timing for multifunctional training; however, they did reinforce the necessity for multifunctional logistics training through a combined Logistics Corps. The three independent studies, conducted at the Command and General Staff College (CGSC) every year since 1999, overwhelmingly concluded a perceived need to combine the CSS branches. Although the recommendation for branch consolidation hasn't been realized or officially authenticated, the researcher acknowledges this conclusion and further contends that branch consolidation is a method to gain the true need, multifunctional logisticians.

Major Martin S. Wagner, concluded in his monograph that the U.S. Army needs to create a Logistics Corps in response to the growing demand for multifunctional logistics expertise. Specifically, Wagner addresses that a Logistics Corps "could allow the logistics officer corps to align training with emerging doctrine, organization and technology" (1999, 41). Additionally, he offers several examples of successful merging

of logistics functions such as the combining of several enlisted supply Military Occupational Specialties (MOSs) into the 92A specialty and the British development of their Royal Logistics Corps in April 1993. As illustrated by the requirement for Force XXI (Digitized) logisticians to have strong multifunctional background, Wagner's argument hinged on the ability for logisticians to manage distribution-based supply operations. He concluded that this is best achieved by creating a combined Logistics Corps.

In 2000 and 2001, Major Randolph G. Haufe analyzed whether the development of a single multifunctional Logistics Corps would improve the DTLOMS development process in order to support the transformational initiatives. He concluded that a Logistics Corps would improve the process by providing greater unity of command for logistics DTLOMS development and management; by eliminating competition for scarce resources; by providing better trained multifunctional logisticians at all levels, and, by providing a logistics organization that more closely mirrors future doctrine and organizations (Haufe 2001,118). Besides further analyzing the British development of the Royal Logistics Corps, he offers the example of the U.S. Marine Corps concept for logistics support that also uses a concept of multifunctional logistics management. Haufe specifically mentions the benefit of training and leader development to be realized by the Logistics Corps concept; his conclusion supports a unity of effort towards a combined logistics capability.

Lastly, Major David C. Dusterhoff, suggests that a multifunctional Logistics Corps is necessary to support Transformation to the Objective Force. Multifunctional officers would be more versatile, more supportive of current doctrine and future

operations, and easier to manage (Dusterhoff 2002, 37). He concludes that as the Army undergoes transformation, the logistics branches should also transform by combining the logistics officers into one branch called the Combat Logistician branch. His arguments are derived from a current analysis of officer attributes and capabilities against requirements anticipated to support future operations. Dusterhoff details current institutional training for logisticians and the resident shortfalls as applicable to requirements generated in operational assignments.

There are countless sources and documents relating to a perceived requirement to "transform" the U.S. Army's logistics branches into a combined or multifunctional Logistics Corps. As illustrated, most relate the overlap in responsibility within the CSS functions of Ordnance, Quartermaster, and Transportation as the primary reason for consolidation. The researcher concurs with this conclusion and believes that the benefits gained will be significant considering the magnitude of scale for personnel, training, funding, as well as equipment (Haufe 2001, 87). Previous research proposes that a combined Logistics Corps will lead to a multifunctional training program for future logistics officers. The researcher believes that an adequate training program to support "transformational" requirements is more probable and thus more realistic to fulfill the required RML. Subsequent realization for branch consolidation is possible and would facilitate further benefits, as well as challenges, as articulated by the referenced researchers.

Logistics Officer Education System

The framework for the current OES was developed through a self-evaluation conducted by the Army in 1978. The review, called a Review of Education and Training

of Officers (RETO), defined the parameters for a commissioned officer education system that, generally, is still in place today (Griswold 2002, 4). Over the past twenty-five years there have been numerous officer career management, education, and development reviews including the Officer Professional Management System II (OPMS II) surveys (1984), OPMS XXI surveys (1997), and the Army Training Leadership Development Panel (ATLDP) in 2001. These programs seek to identify developmental shortfalls within the officer career timeline and propose systems, programs and methods to correct these issues. The latest ATLDP revealed that the training and leader development of officers needs to address the significant changes affecting the officer Corps including an increasingly smaller standing army, higher incidence of field grade officers functioning away from their branch, increased operational tempo (OPTEMPO), technological advances, and captains' attrition. The resulting proposed changes address the nature and duration of institutional instruction; however, the sequence is relatively unchanged as illustrated in Figure 1 that depicts the current and proposed programs.

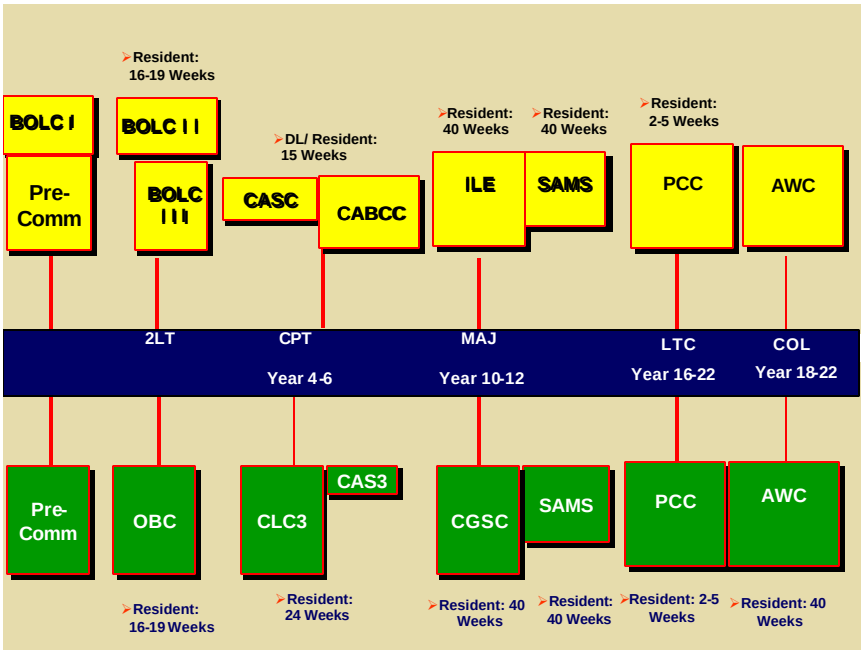

Figure 1: OES Timeline

Following precommissioning training at local commissioning sources (Reserve Officer Training Course, the United States Military Academy, or the Officer Candidate School) officers attend their branch specific Officer Basic Course (OBC). Logistics officers will receive between fourteen to nineteen weeks of developmental training and education focused on building platoon leadership skills within the context of specific logistics organizations. Transportation officers are trained at Fort Eustis, Virginia, Quartermaster officers are trained at Fort Lee, Virginia, and Ordnance officers are trained at Aberdeen Proving Ground, Maryland. Due to the decentralized nature of this training, as well as all of the other branches of the Army, several issues were identified by the ATLDP including: new second lieutenants lack combined arms perspective and an Army service ethic, officers lacked a common Army standard for small unit leadership, OBCs need to develop young officers who are confident and competent to lead small units in a full

spectrum environment, and current programs need more hands-on, performance oriented field training (Griswold 2002, 7). In an effort to address these issues, the Army developed the Basic Officer Leaders Course (BOLC), which has conducted several pilot courses and is due for full implementation in fiscal year 2004. BOLC is a three-phased institutional training program with the first phase delineated as precommissioning training conducted prior entry on active duty and conducted at commissioning source. Phase two is conducted with all branches of officers attending a common "Field Leadership Laboratory" training course focused on confidence building with rigor and toughness conducted through leadership situational training exercises (Griswold 2002, 9). The third phase is branch specific training for eight to fourteen weeks focused on branch specific skills. The three core logistics branches conduct logistics specific tasks at their branch homes. There is currently no program for combining these logistics programs. The desired endstate for BOLC was to leverage the benefits of training and educating combat arms, combat service, and combat service support officers together to produce well-rounded, effective leaders who are better prepared to work with others outside their own branch throughout their careers (Dusterhoff 2001, 42).

As discussed earlier in chapter 1, the logistics community recognized the need to train multifunctional logistics and in 1993 and developed the Combined Logistics Officer Advanced Course (CLOAC) to fill the training void. In October 1998, the Combined Logistics Captains Career Course (CLC3) replaced CLOAC when TRADOC mandated the addition of the Combined Arms Services Staff School (CAS3) to all Advanced Courses. The CLC3 is taught at the U.S. Army Logistics Management College (ALMC), Fort Lee, Virginia. This course replaced the branch-advanced courses for Quartermaster,

Ordnance, Transportation, and selected Medical Service Corps and Aviation Logistics Officers. The CLC3 provides advanced level training in tactical planning functions and multifunctional logistics skills to prepare Army officers for duties as company commanders and staff officers on multifunctional staffs (DA Pamphlet 600-3 1998, 140). CLC3 students are first lieutenants (selected for promotion) or junior captains with an average of 3 ½ years in the military and are from all logistics branches of the Army to include: Aviation (maintenance), Medical Service, Ordnance (ammunition and maintenance), Transportation, and Quartermaster Corps. The course length is twenty-four weeks, divided into four separate course phases that are completed in sequence. Phases One and Phase Three constitute a total of thirteen weeks of combined instruction taught at ALMC on Fort Lee, Virginia. Phase One is approximately six weeks in duration and has a simplified focus of preparing students for commanding company-sized units. The five-week Phase Two course trains company grade officers in their branch specific critical tasks at a regimental (or branch) school at various locations across the United States. Phase Three is seven weeks in duration and is focused on training the student in multifunctional logistics (ALMC 1999, 32). Phase Four is a six-week course, CAS3, and trains students in staff procedures and skills in a mixed environment including all branches of the Army including Combat Arms, Combat Support, and Combat Service Support branches. This phase is taught at the CGSC at Fort Leavenworth, Kansas. The purpose of CAS3 is to train officers to function as effective staff officers. The course goals are to: provide students the ability to analyze and solve military problems; provide the students the ability to interact and coordinate as a member of a staff; improve

communication skills; and gain a basic understanding of Army organizations, operations, and procedures (DA Pamphlet 600-3 1998, 158).

Within the context of the OES redesign, the Combined Arms Staff Course (CASC) will replace CAS3 and will be assignment specific, focused training. This institutional program will not necessarily be combined arms, will be shorter in duration, and incorporates distributed learning techniques. Pilots of CASC are scheduled for fiscal year (FY) 2003. Curiously, this course will be eliminated by FY 2008. Additionally, OES redesign proposes to replace CLC3, phases one through three by the Combined Arms Battle Command Course (CABCC). This course is focused to train officers to command specific type commands, also a focused training program. This program will limit the current exposure to multifunctional logistics. Currently, out of six scheduled weeks of resident instruction, two weeks will be dedicated to multifunctional logistics training and interaction (Jaeckle 2002, 4). This is compared to seven weeks currently allocated within CLC3. Tentatively, pilots for CABCC are scheduled for FY 2004-2005.

At the field grade level, institutional training changes in OES redesign replace the Command and General Staff College (CGSC) with Intermediate Level Education (ILE). Fundamentally, the core training is unchanged while optimizing required training based on officer's career field. Additionally, all officers will attend resident (twelve weeks) training compared to fifty percent of previous populations in CGSOC. The CGSC is piloting the ILE common core curriculum in FY 02 at Fort Leavenworth, Kansas. The common core includes Army history, theory, doctrine, and practice and stresses the operational level of war for division, corps, joint, and multinational forces. The focused intent is to ground the Army's majors in the art of war fighting at these echelons of

command (Griswold 2002, 25). The Army's majors will be provided ILE instruction in one of four settings, resident at Fort Leavenworth, distance education sites (DES), and non-resident instruction including Advanced Distributive Learning (ADL) instruction. The CGSC will develop and pilot Advanced Operations and War fighting Course (AOWC) to be taught to officers in the operations career field (OPCF) at Fort Leavenworth beginning in FY 03. AOWC will be a twenty-eight-week resident course focused on the art and science of how to deploy and employ forces, conduct campaigns and contingency operations, and sustain readiness. It will focus on the development of competencies in staff and command. Full-spectrum scenarios will be utilized with emphasis placed on performance-oriented training and education (Griswold 2002, 62).

Current and future OES programs offer many benefits as well as challenges to logisticians supporting the Army Transformation. This research will determine the optimal time for multifunctional training within an officer’s career and professional development timeline.

CHAPTER 3

METHODOLOGY

Research Typology

This study will use a *program analysis* research typology to investigate the need for multifunctional logistics training and institutional training shortfalls as identified through a significant review of literature and committee type consensus (Cirn 1993, 7). Additionally, it involves drawing together and evaluating facts and informed judgments regarding causes and consequences of alternative strategies for dealing with various problems or shortfalls. This approach to addressing a training issue is desirable because it focuses on identifying potential improvements to make to developmental programs. Program analysis lies in the linking of work practice to research (Rossi and Freeman 1985, 22). Its primary purpose is to use scientific methods, measurements, and analysis to improve the efficiency and effectiveness of social programs and the quality of social services (Gordon 1991, 202–203). In this research, these services include the professional education of the Army's logistics officers. The researcher intends to leverage this methodology through a survey in order to gain the perspectives of the individuals under study by sharing in their previous professional activities and experiences (Leedy and Ormrod 1997, 42). The survey instrument also contains demographic data questions pertaining to branch, rank, experience and time in service plus questions seeking respondent opinions of multifunctional logistics training value and timeliness (Rea and Parker 1992, 11)

Research Design

The researcher conducted secondary research (Cummins and Slade 1979, 8), as outlined in Chapter 2: Literature Review with previous monographs and studies to illustrate an operational training shortfall and trend. Combined with a questionnaire designed to gain consensus from qualified experts, the researcher will determine the answer to the research question. The questionnaire was developed to gather demographic data and to sample relevant attitudes and opinions of multifunctional Army logisticians. The survey used in this study primarily focused on two areas. The first part of the survey addressed demographic characteristics (Suskie 1992, 12) of the research participants. As a by-product of the primary focus of the survey, demographic information may present a trend indicating that years of logistical experience, or individuals with specific logistical backgrounds, may view multifunctional logistics support concepts from a certain perspective. Secondly, and most importantly, the survey focuses on doctrinal concepts and logistics management capabilities required to support combat operations. The researcher will determine current opinions and attitudes regarding the ability of the current OES to properly prepare logisticians for future assignments.

Proposed Pilot Study

Prior to administering surveys to the actual research participants, pilot surveys will be administered to five to ten logisticians at CGSC. These officers will complete the questionnaire without assistance or any clarification from the researcher. This scenario is an effort to duplicate future implementation of the instrument (Suskie 1992, 24). Following completion of the survey, the individuals will be queried with a primary purpose of determining the level of comprehension and clarity of the survey as well as

highlight any areas or questions that may need revision. End state of the Pilot Study is to produce an easily understood survey that will capture the data necessary to complete this study.

Data Collection and Analysis

A questionnaire, as the proposed research instrument offers a quick, inexpensive, and accurate method to gather assessments to form a basis for conclusions (Rea and Parker 1992, 56). Surveys will be distributed, collected and consolidated inside Bell Hall, Fort Leavenworth, Kansas, for officers attending and instructing at Fort Leavenworth. An additional survey population are the students attending CLC3. Surveys will be administered to recipients via email or distribution, not by the researcher, so as to promote honest and unbiased feedback (Suskie 1992, 15). Due to the nature of the survey instrument's distribution and collection, the researcher expects a relatively high return rate for the questionnaire (Salant and Dillman 1994, 4).

The researcher intends to extrapolate two types of data from the completed surveys: demographic or background data and data evaluating effectiveness of several aspects of the current and proposed OES structure for logistics officers. Statistical data will be extrapolated to address the study's primary and secondary research questions. Using a Likert Scale (Rea and Parker 1992, 60), the research will pose questions relating directly to the perception of required capabilities and perceived value of institutional programs to provide adequate instruction for future professional assignments. In these questions, participants are asked to indicate if they strongly agree; agree; neither agree nor disagree; disagree; or strongly disagree with the subjects being addressed. Values one through five were assigned to each of the possible answers (strongly agree--5, agree--4,

neither agree nor disagree--3, disagree--2, strongly disagree--1). Using the participants' responses, a mean score is calculated for each area or concept. High mean scores within the specified area, indicated, in general, participants agreed or strongly agreed with targeted survey questions

Field Procedures

The research will be conducted within the confines of the CGSC, Bell Hall at Fort Leavenworth, Kansas, and the ALMC, building 12500 at Fort Lee, Virginia. This is the location that CLC3 students attend Phase 1 and 3 of the Captains' Career Course. Surveys, the proposed research instrument, will be distributed to CGSC faculty and students upon DGDP survey approval in January 2003. The CLC3 Small Group Instructors will distribute CLC3 student and faculty surveys during their last week of instruction in Phase 3, CLC3. Collection of surveys will be unobserved in a consolidated drop box, potentially email, located in a common area in an effort to promote anonymity.

Limitations and Reliability

The survey is obviously limited by the questions asked. The researcher will strive to be clear and concise in his queries and will attempt to use reciprocal verification questions (Salant and Dillman 1994, 8); however, other intangible factors affecting data might not be captured. The nature of the data collection limits the ability of the researcher to clarify questionnaire intent or observe physical affects or responses. This is critical to maintain the research participants' anonymity to ensure honest and concise feedback to the questionnaire. Trends in analysis skewing should be limited and minimized following refinements made in the pilot studies.

The administrative section of the questionnaire will be used to group research participants demographic data as well as grouping of inquires focused on specific secondary questions. With this visibility of data collection, the researcher should be able to generate internal correlations and reliability (Leedy and Ormrod 2001, 51). Based on similar population sets, other researchers would be highly confident of producing similar results.

Conclusion

This chapter proposed the typology and methodology for this study and included general design, target population piloting and surveying procedures, instrumentation and validation, data collection procedures, and data analysis. The general designs of the study focus on survey research. The survey questions are concerned with the assessment of perceptions of the institutional training effectiveness supporting the Army Transformation. A validated and efficient instrument, the questionnaire (or survey) is a method to collect data and validate a hypothesis. The data will be analyzed using appropriate bivariate statistical analysis procedures (Leedy and Ormrod 2001, 52). The intent of this discussion was to provide the researcher with information for study replication. The next chapter will describe the outcome of this investigation.

CHAPTER 4

ANALYSIS AND FINDINGS

Initial Analysis

The researcher presented secondary research in the Literature Review to postulate that the future Combat Service Support structure generated from the Army's Transformation will increase the requirement for officers with multifunctional logistics proficiency. Additionally, the data analyzed indicates that these changes foster an increased reliance on junior officers to provide this ability without the benefit of institutional training. The secondary research and analysis of the interim forces' CSS evolution in structure and methodology allowed the researcher to hypothesize that CSS officers will require multifunctional logistics training at initial entry. Based on secondary data sources, the researcher argues that the future Objective Force support structure will rely heavily on the multifunctional abilities of CSS platoon leaders and that multifunctional logistics training should be provided at the Officer Basic Course (or equivalent, BOLC). The researcher determined that polling an experienced population of logistics officers would provide insight into the collective perception of the CSS Corps towards this conclusion.

Survey Design

The survey was selected as the research instrument to determine concurrence with the researcher's hypothesis. Survey questions used in this study primarily focused on two areas. The first part of the survey addressed demographic characteristics of the research participants. As a by-product of this data, demographic information represents a trend

that years of experience, or individuals with specific backgrounds, have a definitive understanding of the requirements for success in various roles of logistics officers. Secondly, the survey asked for responses to statements generated to determine personal opinions applicable to the topic and supplemental research. This part of the survey included specific, closed ended questions that used the Likert scale for "perceived" answers. These questions will be discussed individually later in the chapter. The survey is enclosed in appendix A.

Survey Methodology

The research instrument used was a written survey administered to CSS officers of CGSC graduating class of 2003, CGSC faculty, and the students of CLC3 Class 02-007 (graduated December, 2002). The data collected was used to determine if there were statistically significant perceptions of training potential within the scope of this research project. Desired target populations were Aviation Logistics, Medical Service Corps, Ordnance, Quartermaster, and Transportation officers within the multifunctional logistics career fields. As delineated in the limitations of chapter 1 of this research document, the other CSS functions were selectively excluded. A total of 140 surveys were distributed by email to students attending CGSC. Of the surveys distributed, seventy-seven were returned and used as data for the research. Eight surveys were discarded because of unanswered questions or the researchers inability to determine the subject's intended response (marked multiple answers or annotations between two boxes of the Likert scale). An additional thirty-three surveys were distributed to CGSC faculty using instructor distribution boxes with nineteen responses; none were discarded for corrupt data. The survey was also administered to eighty-two students attending Phase 3 of CLC3

in Fort Lee, Virginia. Fifty-seven returned surveys were used in the analysis. One was discarded because it was a response from a USMC officer, not part of the target population. Based on the total targeted population, the usable respondent rate was fifty-eight percent. This is a relatively outstanding return rate, which the researcher believes could be attributable to the scholastic setting and classroom environment when the survey was administered.

Data Analysis

As previously stated, the researcher designed the survey beginning with demographic data. This data had two desired uses: military service and assignment experience authenticated creditability as well as delineating the target population to establish validity. Additionally, demographic data established a baseline of experience for comparison for subsequent focused research questions. Each question is addressed below with a general descriptive statistical analysis based on 148 usable returned questionnaires.

Question 1. What is your rank? Although not the primary source to correlate experience to creditability, this question allows the researcher to draw conclusions about the extent of responsibility of the surveyed officers. Thirty-nine percent (57 each) respondents were captains; Fifty-two percent (77 each) were majors, and nine percent (14 each) were lieutenant colonels. Figure 2 graphically illustrates these results.

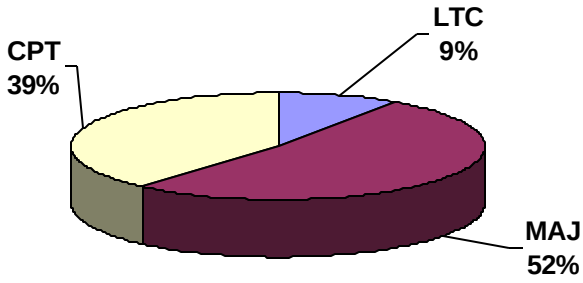

Figure 2: Question 1. What is Your Rank

Question 2. What is your branch? Survey question 2 was intended to illustrate the branch functional representation of officers within the core CSS branches. Figure 3 depicts the survey results and is similar to results from a similar survey conducted to determine a related multifunctional logistics issue (Haufe 2001, 52). No specific conclusions were intended to be drawn from this question, however, these results do enhance the creditability of incorporating all elements of the core CSS functions applicable in legacy, interim, and projected Transformational logistics support operations.

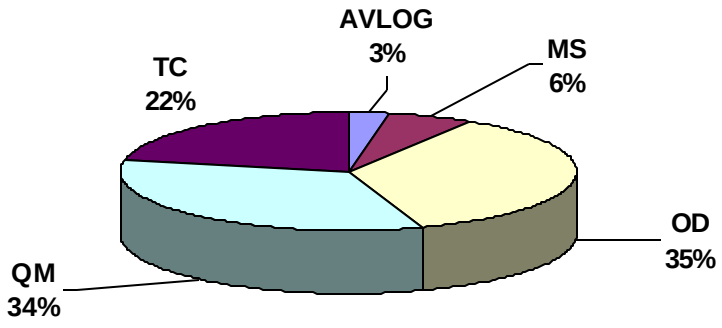

Figure 3**:** Question 2. What is Your Branch

Question 3. What is your Functional Area? The researcher intended to further illustrate the qualifications of the surveyed officers by soliciting the Functional Area (FA) assignment. Specifically, the high participation of Functional Areas 90 officers (Multifunctional Logistics) illustrates the legitimacy of the targeted population. This question negates the majority of the captain population, as Functional Areas are not assigned until they become senior captains. Figure 4 graphically illustrates the survey results. All "NA" responses were from junior captains attending CLC3.

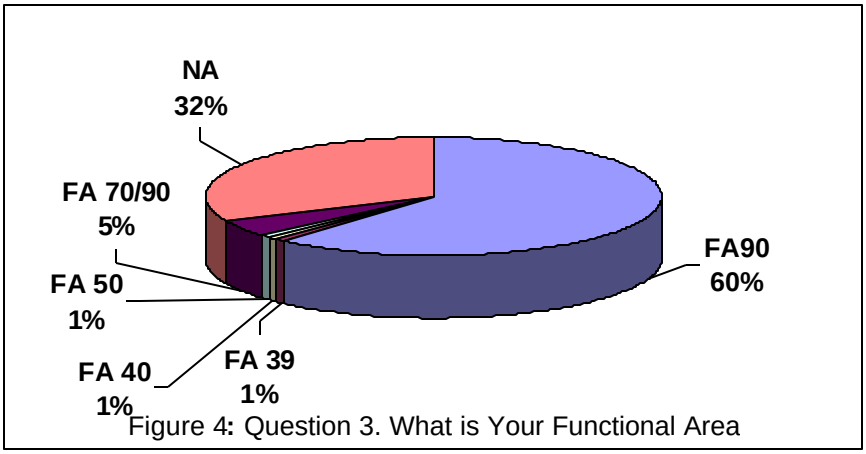

Figure 4: Question 3. What is Your Functional Area

Question 4. How long have you been an Army officer? Question four examined the Army experience levels of the surveyed officers. The researcher acknowledges that experience generates knowledge and this knowledge fosters credibility and applicability when used with other surveyed data, specifically, those questions that indicate significant experience and knowledge in multifunctional logistics. The more time in service increases the probability that the research subjects understand what they need to know when they serve in CSS assignments, present, and future. Figure 5 illustrates the graphical depiction of relative military experience levels among the research subjects. Of the 148 officers queried, the shortest experience level was four years (four officers) and the highest was 23 years (two officers). Over 70 percent of the subjects fell in an experience level of eight years or more while the average of those surveyed was 10.6 years. The mean and median, 10.61 years and 12 years, both reinforce the hypothesis that these officers are aware of the requirements for current and future positions and are knowledgeable on the individual qualifications needed to succeed in those positions. The

Career Stage Development Cycle postulated by Hatcher (1997, 152) and Chambers, Wedel, and Rodwell (1992, 43) pose that these individuals would be in the integration sub-phase of the mastery phase in the career development cycle and would be able to accurately determine requirements for professional development.

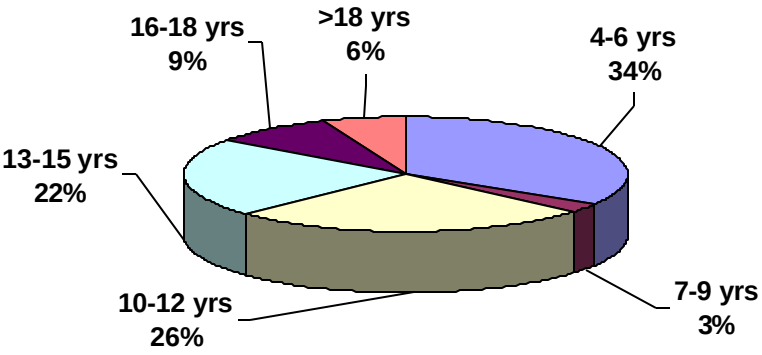

Figure 5: Question 4. Survey Participants Military Experience (Yrs)

Question 5. Were you a Branch Detailed or Branch Transfer? The researcher intended to determine if this unique population, who never attended a logistics basic course and possibly advanced course, had significantly different views for initial entry institutional training requirements. Almost one-third (32 percent) of all respondents were detailed from a nonlogistics branch as illustrated in figure 6; however, this population's survey responses never deviated much from collective results of the same question.

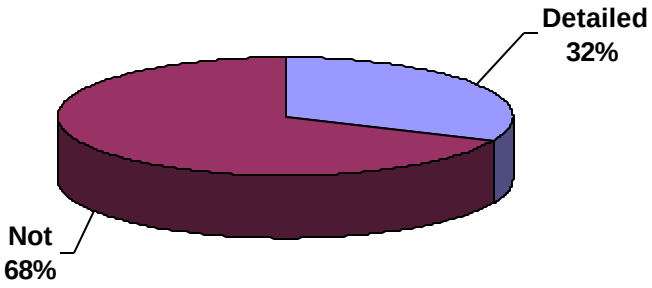

Figure 6: Question 5. Survey Participants Branch Detailed or Transferred

Question 6. Annotate is you have attended any of the following courses that train Multifunctional Logistics: Support Operations Course (SOC), CLC3/CLOAC, Logistics Executive Development Course (LEDC), and any other. The researcher included this question to determine institutional multifunctional training of survey participants. Figure 7 depicts the results. Over 41 percent of surveyed officers attended the Support Operations Course and almost 80 percent (79.1 percent) attended either CLC3 or CLOAC. These statistics further qualify the target population in multifunctional logistics expertise.

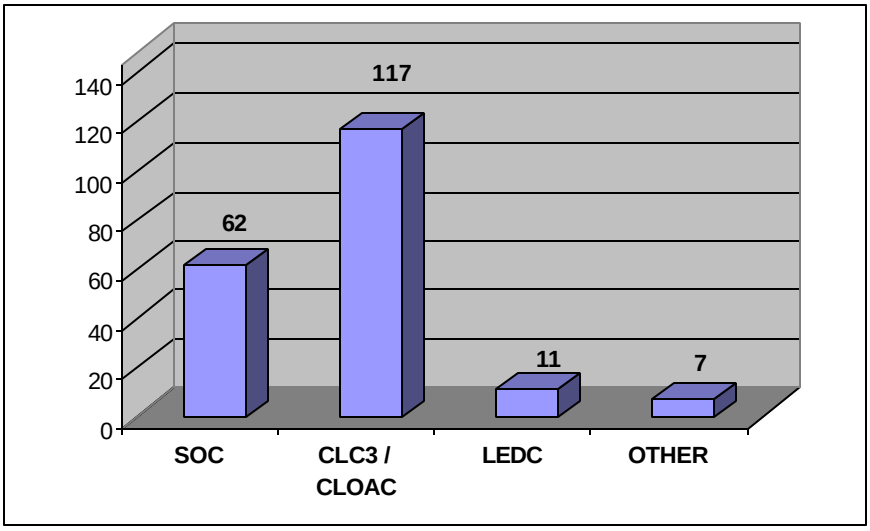

Figure 7: Question 6. Survey Participants MF Logistics Training

Question 7. Expressed as a percentage of your military LOGISTICS career, please estimate your experience in Multifunctional Units (ie. FSB, MSB, CSB) (contrasted to Functional Units (ie. Maint Bn, Trans Bn/Grp). The researcher intended to glean relative logistics experience of the target population. Specifically, this question is assumed to be a mutually exclusive inquiry into the logistics experience of the surveyed officers comparing multifunctional with functional logistics assignments. As would be expected with the plethora of Army logistics assignments, the data analyzed revealed no specific trend. Each grouping is, generally, equally represented. Figure 8 illustrates the results. The remarkable statistic is when the assignment history (Question 7, see figure 8) is compared to required multifunctional knowledge and capability (Question 8, see figure 9) and required expertise outside individual branch expertise (Question 9, see figure 10). While less than half of the respondents spent over 50 percent of their career in

multifunctional units, almost three-quarters (73 percent) of the population were required to have multifunctional abilities. Of considerable interest is that the majority of all respondents (54 percent) were required to perform duties outside of their "functional" expertise (Question 9). This statistic demonstrates the importance of multifunctional training regardless of assignment. Only 2 percent stated they have never had a need for multifunctional knowledge.

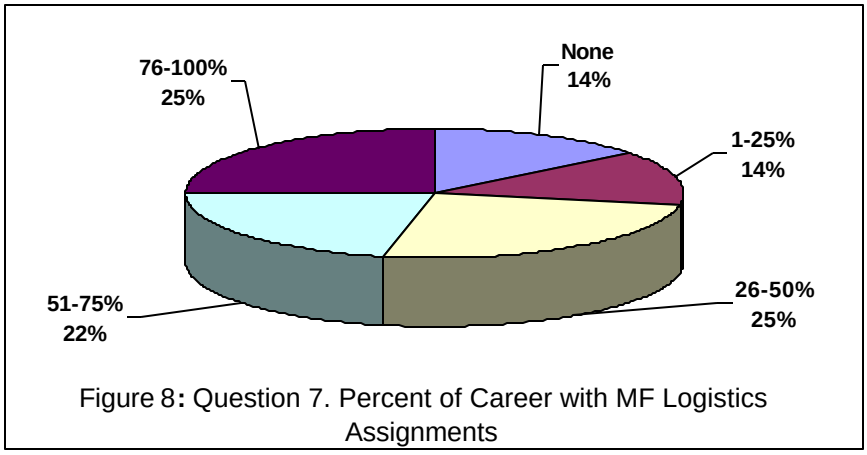

Figure 8: Question 7. Percent of Career with MF Logistics Assignments

Question 8. Expressed as a percentage of your military LOGISTICS career in both Multifunctional and Functional Units, estimate the need for Multifunctional Logistics knowledge or capability. The researcher attempted to illustrate the significance of multifunctional logistics requirements even in organizations that are not multifunctional. As illustrated by 73 percent of the surveyed population, CSS officers are required to perform the majority of their career in multifunctional capacities. Compare the statistics outlined above with data presented in figure 9.

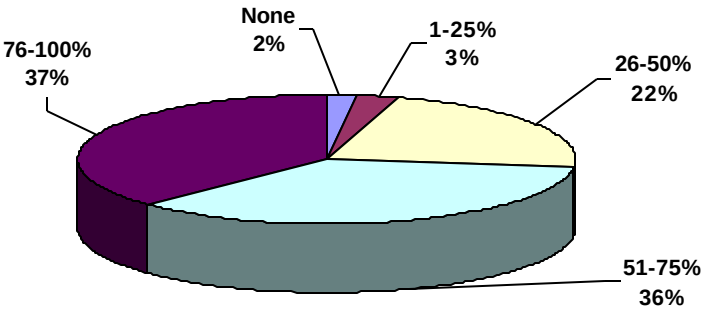

Figure 9: Question 8. MF Logistics Need in Any Assignment

Question 9. Expressed as a percentage of your military LOGISTICS career in both Multifunctional and Functional Units, estimate your experience requiring knowledge in areas outside your Branch specific expertise (i.e. QM as a Maint Company CDR). The researcher developed this question to determine the legitimacy of branch specific training. Of significance is the statistic that the majority of officers surveyed performed the majority of their duties outside their functional expertise, and presumably, without any training to prepare them for these duties. Figure 10 represents the graphical results of this inquiry.

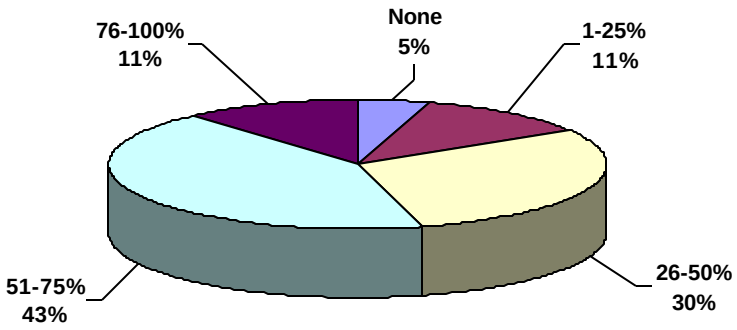

Figure 10: Question 9. MF Logistics Requirements Outside Branch Expertise

Questions 10 through 23. The next fourteen questions of the survey are all Likert scale (Mason and Lind 1997, 12) questions designed to promote subjective thought and evaluation of characteristics of multifunctional logistics and potential future CSS requirements. All the questions were in the form of descriptive statements about multifunctional logistics and Army Transformation. The surveyed officers were to respond to inquiries by selecting the statement that best reflected their reaction to the statements that compared functional and multifunctional logistics. Responses were limited to five choices: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. Responses were consolidated and analyzed to determine aggregate favorable and unfavorable responses to the survey questions. Additionally, analysis was conducted to determine forecasted probability based on survey results. The raw data responses and descriptive analysis of these questions is tabled in appendix B. This survey analysis will consider favorable responses between 50 and 60 percent as marginal and thus,

inconclusive. This is based on a margin of error of plus or minus 5 percent for the aggregate sample and 55 percent as a benchmark for a favorable response.

Question 10. Multifunctional logistics proficiency allows officers to support the field Army more efficiently than functional logistics. The researcher designed this question in an effort to determine the perceived utility of multifunctional logistics officers to support tactical operations. Considered with results from Questions 12 and 17, these responses illustrate the surveyed population's endorsement of the significance of multifunctional abilities. Additionally, when used in conjunction with the results of Question 15, the following results confirmed the researcher's argument addressing the underlying issue of combining the logistical branches. While an overwhelming majority of surveyed officers responded favorably (83.78 percent) to this question (10), less than 37 percent of the population was favorable to the comment that the Army should form a combined Logistics Corps (Question 15). The researcher argued that the true issue and critical consideration was multifunctional logistics abilities to support maneuver forces. This is illustrated by the high approval rate of this question compared to the 7.43 percent whom responded unfavorably.

Question 11. Multifunctional logistics abilities are more easily learned after training in branch specific skills compared to learning functional skills following multifunctional training. The question's purpose was to determine if the respondents supported the current method of training logistics officers to be functional leaders initially at their Officer Basic Courses. The question implies that multifunctional training is better learned following grounding in branch specific skills. This question is a reciprocal argument of the researcher hypothesis. Appendix B shows that the survey

group responded favorably toward this question, with 62.84 percent in agreement and 17.57 percent disagreeing. Although within the parameters of a favorable response, this analysis was less than 3 percent above the acceptable standard. When combined with the internal validation question (Question 13), which was inconclusive, this question is marginally favorable. Internal validation questions are essentially the same question reworded to corroborate individual questions and compliment the survey results.

Question 12. Functional expertise early in an officer's career better prepares them for subsequent CSS assignments (as compared to early multifunctional expertise). This statement is related to, and supplementary of Question 10. The researcher constructed a null hypothesis of Question 10 and survey participants proved this statement to be inconclusive. Favorable response was 52.03 percent and unfavorable was 23.65 percent. This supports the favorable response to Question 10.

Question 13. It would be easier for a functional officer to learn multifunctional logistics than a multifunctional logistician could learn branch functional skills. Used in conjunction with Question 11, this question was intended to determine the optimal queuing for multifunctional and functional training. This question proved overwhelmingly inconclusive (30.41 percent favorable), as expected. The researcher hypothesized an inconclusive response this question, however, the related survey question (Question 11) produced contradictory results. Thus, no significant conclusion can be drawn from these results.

Question 14. I have a solid understanding of the concepts of multifunctional logistics. This question attempts to validate the target population by gathering self-assessed proficiency in the research topic, multifunctional logistics. Additionally, this

data compliments the demographic data assumptions that increased experience and service enhances respondent creditability. This question resulted in a 79.73 percent favorable response compared with 9.46 percent unfavorable.

Question 15. The Army should merge the logistics branches to form a Logistics Corps. This question was briefly discussed in the narrative of Question 10. The researcher heavily resourced previous research that focused on the combining of the logistics branches. A significant amount of previous research concluded that the Army did need to combine the core CSS branches to form a Logistics Corps including monographs by Dusterhoff, Haufe, and Wagner. Although not directly inclusive in this research, the basis for these conclusions revolved around the significance of multifunction logistics and arguments supported by this researcher. Interestingly, this comment was very unfavorable (44.59 percent) compared to the inconclusive 36.49 percent favorable statistic. The researcher anticipated some uncertainty with this question, however, did not expect this much of an unfavorable response.

Question 16. I am an expert in my branch specific skills. The researcher further compliments the demographic conclusions and Question 14 by soliciting a self-evaluation of branch skills. Additionally, although favorable (62.84 percent) there is some significance in the relatively low conclusive response. This low rate when considered with a 17.57 percent unfavorable statistic adds further significance to the results of Question 9. That demographic question addressed the relatively high operational assignment requirements outside surveyed officers' branch expertise.

Question 17. An officer proficient in multifunctional logistics can more easily transition to most other logistics assignments/positions (compared to a functional logistician). The grouping of questions 10, 12, and 17 evaluate the surveyed logistics community's perception of the importance of multifunctional logistics management and structure in current support doctrine. The result of this question solidifies the significant impact of multifunctional logistics with a favorable response rate of 85.14 percent compared to 5.41 percent unfavorable.

Question 18. There will be an increased demand for multifunctional logistics officers to support the Army Transformation. The researcher intended to determine the perceived significance and anticipated requirements for multifunctionally skilled officers to support the Army Transformation. This statement posed that future requirements for multifunctional officers will increase. The survey population's response was highly favorable at 84.46 percent. Unfavorable response was 4.05 percent. The researcher obviously concluded that the logistics community would have a larger multifunctional populace to support this anticipated demand that could potentially result in increased training requirements.

Question 19. Army Transformation is better supported by logisticians that are multifunctional "generalists" versus functional "experts". The researcher attempted to solicit response to a "touchy" subject within the entire Army logistics community. This question attempts to glean consensus amongst the target population to determine the overarching theme to realize Army transformation. This question was inconclusive, as anticipated, with 54.73 percent responding favorably and 17.57 percent unfavorably.

However, this statistic is much higher than expected and as a general concept, indicates a growing trend towards the "generalist" approach to support tactical forces.

Question 20. I am familiar with changes in logistical support concepts in the interim forces (Digitized Division, SBCT). Questions 20 and 21 were intended to validate the survey population's self-assessed familiarity with anticipated requirements and future support structures queried in Questions 18 and 19. The survey group responded 68.92 percent favorably to 14.19 percent unfavorable. Based on this result and the results of the next question, the survey population is well qualified to provide insight into the requirements generated through Transformation to the Objective Force.

Question 21. I am familiar with Army Transformation. This question validates the respondents' creditability in answering Questions 18 and 19. As would be expected in an institutional environment, the results were conclusive and highly favorable to this question about Transformation. The population responded 80.41 percent favorable compared to 2.7 percent unfavorable.

Question 22. Multifunctional logisticians have more future career opportunities compared to functional logisticians. As a related but tangent research question, the researcher intended to determine if the logistics community generally felt that the "future" of the Army was perceived to be multifunctional. The assumption made that resources, including money, personnel, and training, follow this perception. Interestingly, this question resulted in a high favorable response of 70.95 percent compared to dissention of 9.46 percent.

Question 23. Multifunctional logistics should be taught to entry-level officers (2LTs). This question is the hypothesis of the researcher: that multifunctional logistics

should be taught at the Officer Basic Course level to new lieutenants. Used in conjunction with Question 25, the researcher anticipated a favorable response this statement. However, the response was inconclusive at 54.73 percent favorable. Question 25 offers a more detailed analysis of the optimal career timing for multifunctional logistics training.

Question 24. Multifunctional logistics is better learned through: (1. On the Job Training (OJT) or (2. Institutional (Schoolhouse Training)? This question was intended to determine the optimal method of training multifunction logistics techniques. Figure 11 illustrates the results. The researcher concludes that On-the-Job training is indispensable in learning multifunctional logistics. Additionally, the researcher concludes from this statistic that institutional training must continue to use hands-on approaches to learning with simulations and real time/real unit integration.

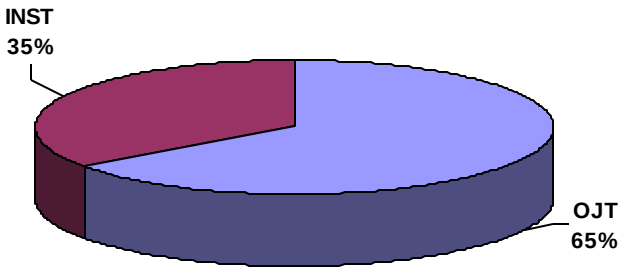

Figure 11: Question 24. MF Logistics Training Best Learned Through

Question 25. The U.S. Army should provide INITIAL Multifunctional Logistics Training*:* This inquiry was intended to determine the optimal career timing of multifunctional logistics within the core CSS branches. The results are illustrated in figure 12. The resulting statistics marginally favor initial instruction provided at the second lieutenant level at initial entry (OBC or BOLC) versus at the captain level (or Advanced Course). An additional 9 percent felt that this training should be initially provided at the first lieutenant level. One respondent each believed multifunctional training was not required or not required until CGSC/ILE.

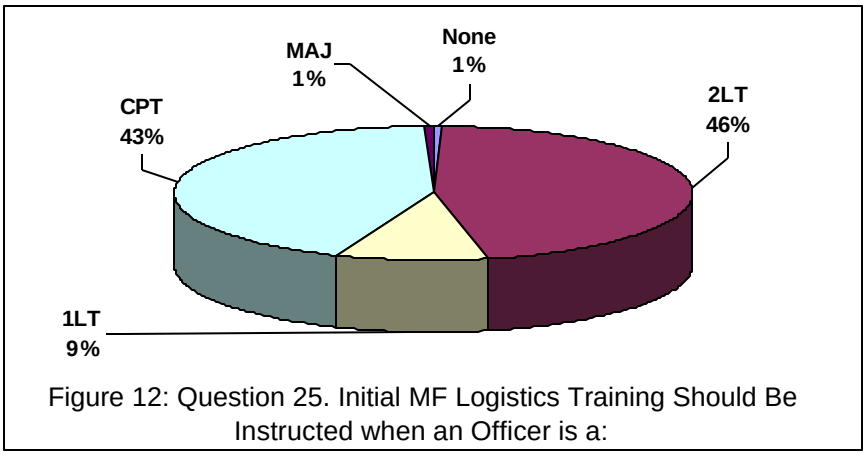

Figure 12: Question 25. Initial MF Logistics Training Should Be Instructed when an Officer is a:

Cursory analysis was conducted to determine any discrepancies in aggregate data by specific population demographics, specifically: rank, branch, service tenure, and experience. No statistically significant differences or effects were noted. The demographic data gathered from the research survey indicates that a great majority, over 70 percent, meets minimum requirements to be classified in the initial category of the

Mastery phase of their career cycle (Chambers, et al. 1992, 43). This is significant as these subjects can be considered experts who understand the tasks and information for which they should be proficient to ensure future success. Without this experience base, the research subjects would be invalid sources of data for this survey instrument in an effort to determine the best solution to the research question. This chapter has described and analyzed the primary data and research conducted to answer the research question. The next chapter will draw conclusions and offer recommendations based on the previous analysis.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The Army's pursuit of the Objective Force has generated significant changes in doctrine, organization, and methodology. The Transformation requires the Army to evolve into a lighter, leaner, more lethal and more responsive force capable of deploying anywhere in the world in a matter of hours. To that end, the logistics community is the critical cog to realize this evolution by significantly reducing the logistical footprint required to support these maneuver organizations. This required reduction is currently being implemented in Interim forces (Digitized Division and SBCT) by embracing the tenets of distribution based logistics, increased situational awareness, and exploiting complete situational understanding. However, technological developments and advances in information management systems are not the panacea. This technology-driven force evolution relies implicitly on the abilities of the soldiers who manipulate them. In the CSS community, the Transformation is multifaceted by leveraging technology to reduce demands and increase efficiencies while developing multicapable and multifunctional logisticians to influence support and increase the flexibility of the maneuver commander.

This research illustrates the fundamental Transformational changes in CSS organizations apparent in the Interim forces. Analysis of secondary data, evolving doctrine, and previous research, revealed a heavy reliance on multifunctional logistics management abilities. Additionally, the researcher concluded that Interim force structures serve as an indicator of future organizational manning where junior logistics officers are

required to have proficiency in these multifunctional abilities. The literature review of Chapter 2 details this logistics evolution in detail and the resulting realization of required changes in the Officer Education System. The research gleaned from secondary sources indicates a perceived need for further changes in the OES, specifically multifunctional logistics training for junior officers. In an effort to determine consensus for this perceived requirement for change, the researcher conducted primary research in the form of a survey. This research tool was specifically designed to solicit perceptions of multifunctional logistics functionality and its role in the Transformation to the Objective Force. The researcher hypothesized that multifunctional logistics would be perceived as a critical attribute to facilitate the Transformation to the Objective Force and that these attributes should be trained to logistics officers upon initial entry. The targeted survey population was representative of the field Army with sufficient recent experience to offer mature, educated, and informed opinions as to the future of the logistics structure to transform to the Objective Force.

The demographic data extrapolated from the research survey, indicated that a large majority of the research participants had significant experience within combat service support organizations. This knowledge provided them with the basis to understand the doctrinal concepts and philosophies of the legacy, interim, and transformational forces. Because of this knowledge base, the research participants were able to make an informed inference as to whether these concepts and philosophies will allow the current OES to effectively support the Objective Force. Additionally, the survey populations' diversity in experience and logistics backgrounds facilitated potential opposing perspectives allowing the researcher to determine if the groups differed in

levels of confidence on specific issues. Finally, the demographic data indicates that the rank and grade structure of the research participants varied. This factor plays an important role in determining logisticians' confidence and acceptance of these concepts across the spectrum of rank and grade structure.

Conclusions

As evidenced by this research study, logisticians are confident that multifunctional logistics concepts and methodologies are critical in the current and interim forces and perceptions are that the transformation to the Objective Force hinges on its proliferation during Transformation. As the Army develops a unit that is more austere and flexible, it uses philosophies, such as distribution-based logistics and total situational understanding, to maintain its responsiveness and survivability. The logisticians that participated in this study seem to readily accept this paradigm shift and indicate a high level of confidence that multifunctional logistics proficiency will allow the CSS community to support the Army Transformation. Finally, the survey acknowledged that multifunctional logistics is the necessary methodology to train our logistics officers to achieve this transformation.

This research further indicates that the logistics community is divided on the optimum timing for multifunctional logistics education in an officer's career timeline. Forty-six percent concur with the researcher's hypothesis to train this ability at initial entry while forty-three percent annotated at the captain level. The conclusion to train multifunctional abilities to lieutenants attending their OBC was marginally accepted by the participants in this study and when analyzed in conjunction with an "unfavorable" consensus for a supplementary question, the researcher is hesitant to draw any significant

definitive conclusions. However, the researcher is confident that this training is imperative within the first four years of an officer's career. This conclusion is applicable as second lieutenants through captains were identified as the optimal career timing for this training with a 98 percent favorable rating. The marginal acceptance of the researcher's hypothesis that: this education is best trained upon initial entry, may continue to grow as interim forces begin proliferating the Army and the majority of the logistics community experiences the officer manning trend outlined in the "Literature Review." In retrospect, a pertinent question of this survey should have been demographic experience data to determine the participant's experiences in interim forces. Additionally, this marginal survey result may indicate a very minor and subtle hesitation on the functional logisticians' part to accept the induction of new officers into the logistics community and train them initially as logistics generalists and thus, lose their branch affiliation. However, logisticians recognize the extraordinary significance of this education in a logistics officer's ability to support the current force and the Army forces of the future.

Recommendation

Based on the doctrinal evolution of CSS manning that is fostering a requirement for multifunctional logistics abilities in the junior company-grade officers, and the (marginal) conclusion from the survey, the researcher believes this training can be implemented within the new fielding of BOLC. During BOLC III, officers attend their branch specific training for approximately twelve weeks. Officers pinpointed to duty stations with transformational forces, and thus require immediate multifunctional proficiencies, could attend courses designed to meet that requirement. Additionally,

piloting this course now will assure successful implementation of this improved OES when the Army is predominately transformed to interim and Objective Force organizations.

Suggestions for Further Research

This study focused on logistics support to the Army's transformational focus, the unit of action (UA) and unit of employment (UE). Loosely defined, the brigade and division equivalents for tactical employment on the battlefield. The nature and methodology for logistics sustainment at echelons above division (current terminology) are extremely convoluted and could only be speculatively defined. However, it is generally assumed that functional logistics abilities become viable, even indispensable, to support transformation forces within this echelon. A study of optimal structure and institutional OES to support this tier of support for future forces will be of growing importance later in the Army's transformation.

APPENDIX A

MULTIFUNCTIONAL LOGISTICS TRAINING SURVEY

I need your input to determine the value and career timing for MULTIFUNCTIONAL LOGISTICS training to support the Army's Objective Force.
Please provide honest and candid feedback. Your timely response is appreciated; this survey takes less than 5 minutes to complete.

Please do the following:
- Fill in the blanks for the information requested in Questions 1-5, for the remaining questions, select your answer by placing an **"X"** in the corresponding box.
- ***When complete, email your responses to christopher.day@us.army.mil or drop in my distribution box in CR12, Bell Hall: DAY, C.***

1. What is your rank? _____ **2.** What is your branch (AV, MS, OD, TC, QM)? _____ **3**. Functional Area?_____

4. How many years have you been an Army officer?_____ **5.** Were you Branch Detailed or a Branch Transfer?_____

6. Annotate if you have attended any of the following courses that train Multifunctional Logistics:

☐ Support Operations Course (SOC) ☐ CLC3/CLOAC ☐ Logistics Executive Development Course (LEDC) ☐ Other (Please list): _____

7. Expressed as a percentage of your military *LOGISTICS* career, please estimate your experience in Multifunctional Units (ie. FSB, MSB, CSB) (contrasted to Functional Units (ie. Maint Bn, Trans Bn/Grp))

☐ None ☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

8. Expressed as a percentage of your military *LOGISTICS* career in both Multifunctional and Functional Units, estimate the need for Multifunctional Logistics knowledge or capability.

☐ None ☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

9. Expressed as a percentage of your military *LOGISTICS* career in both Multifunctional and Functional Units, estimate your experience requiring knowledge in areas outside your Branch specific expertise (i.e. QM as a Maint Company CDR).

☐ None ☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

Please select the block that best represents your reaction to the following statements *COMPARING* functional vs multifunctional logistics:

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
10. Multifunctional logistics proficiency allows officers to support the *field Army* more efficiently than functional logistics.	☐	☐	☐	☐	☐
11. Multifunctional logistics abilities are more easily learned after training in branch specific skills compared to learning functional skills following multifunctional training.	☐	☐	☐	☐	☐
12. Functional expertise early in an officer's career better prepares them for subsequent CSS assignments (as compared to early multifunctional expertise).	☐	☐	☐	☐	☐
13. It would be easier for a functional officer to learn multifunctional logistics than a multifunctional logistician could learn branch functional skills.	☐	☐	☐	☐	☐
14. I have a solid understanding of the concepts of multifunctional logistics.	☐	☐	☐	☐	☐
15. The Army should merge the logistics branches to form a "Logistics Corps".	☐	☐	☐	☐	☐

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
16. I am an expert in my branch specific skills.	☐	☐	☐	☐	☐
17. An officer proficient in multifunctional logistics can more easily transition to most other logistics assignments/positions (compared to a functional logistician).	☐	☐	☐	☐	☐
18. There will be an *increased demand* for multifunctional logistics officers to support the Army Transformation.	☐	☐	☐	☐	☐
19. Army Transformation is better supported by logisticians that are multifunctional "generalists" versus functional "experts".	☐	☐	☐	☐	☐
20. I am familiar with changes in logistical support concepts in the interim forces (Digitized Division, SBCT).	☐	☐	☐	☐	☐
21. I am familiar with Army Transformation.	☐	☐	☐	☐	☐
22. Multifunctional logisticians have more future career opportunities compared to functional logisticians	☐	☐	☐	☐	☐
23. Multifunctional logistics should be taught to entry-level officers (2LTs).	☐	☐	☐	☐	☐

24. Multifunctional logistics is better learned through: ☐ On the Job Training (OJT) ☐ Institutional (Schoolhouse) Training

25. The U.S. Army should provide *INITIAL* Multifunctional Logistics Training at (*Please check only one*):

☐ Nowhere, it is not necessary (CLC3)

☐ Basic Course (2LTs)

☐ Transition Course (1LTs)

☐ Captains Career Course

☐ CGSC/ILE (MAJs)

☐ Other: (please list) _____

* COMMENTS and SUGGESTIONS (Please be specific)

APPENDIX B

SURVEY QUESTIONS 10-23: LIKERT SCALE DESCRIPTIVE STATISTICS

PROBABILITY AND FREQUENCY

Question #	*f(x)=1*	*P(x)=1*	*f(x)=2*	*P(x)=2*	*f(x)=3*	*P(x)=3*	*f(x)=4*	*P(x)=4*	*f(x)=5*	*P(x)=5*
10	1	0.006757	10	0.067568	13	0.087838	67	0.452703	57	0.385135
11	5	0.033784	21	0.141892	29	0.195946	67	0.452703	26	0.175676
12	3	0.02027	32	0.216216	36	0.243243	56	0.378378	21	0.141892
13	9	0.060811	51	0.344595	43	0.290541	31	0.209459	14	0.094595
14	2	0.013514	12	0.081081	16	0.108108	76	0.513514	42	0.283784
15	27	0.182432	39	0.263514	28	0.189189	39	0.263514	15	0.101351
16	3	0.02027	23	0.155405	29	0.195946	71	0.47973	22	0.148649
17	2	0.013514	6	0.040541	14	0.094595	84	0.567568	42	0.283784
18	1	0.006757	5	0.033784	17	0.114865	79	0.533784	46	0.310811
19	5	0.033784	21	0.141892	41	0.277027	59	0.398649	22	0.148649
20	2	0.013514	19	0.128378	25	0.168919	76	0.513514	26	0.175676
21	1	0.006757	3	0.02027	25	0.168919	89	0.601351	30	0.202703
22	4	0.027027	10	0.067568	29	0.195946	73	0.493243	32	0.216216
23	5	0.033784	43	0.290541	19	0.128378	58	0.391892	23	0.155405

SIMPLE DESCRIPTIVE STATISTICAL ANALYSIS

Question #	*E(x)*	*Variance*	*SD*	*Z <3*	*% agree (>3)*	*% Agree*	*% Disagree*
10	4.1419	0.7839	0.8854	-1.2897	90.15	83.78	7.43
11	3.5946	1.0789	1.0387	-0.5724	71.57	62.84	17.57
12	3.4054	1.0789	1.0387	-0.3903	65.17	52.03	23.65
13	2.9324	1.1711	1.0822	0.0624	47.61	30.41	40.54
14	3.9730	0.8371	0.9149	-1.0634	85.54	79.73	9.46
15	2.8378	1.6359	1.2790	0.1268	45.22	36.49	44.59
16	3.5811	0.9732	0.9865	-0.5890	72.24	62.84	17.57
17	4.0676	0.6576	0.8109	-1.3165	90.66	85.14	5.41
18	4.1081	0.6099	0.7810	-1.4189	92.22	84.46	4.05
19	3.4865	1.0336	1.0167	-0.4785	68.44	54.73	17.57
20	3.7095	0.8953	0.9462	-0.7498	77.34	68.92	14.19
21	3.9730	0.5128	0.7161	-1.3587	91.31	80.41	2.70
22	3.8041	0.8873	0.9420	-0.8536	80.23	70.95	9.46
23	3.3446	1.3204	1.1491	-0.2999	61.79	54.73	32.43

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