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Marine Corps University
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Marine Corps Combat Development Command
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MASTER OF MILITARY STUDIES

**TITLE: Balancing Air Force Support Force Structure;
Leveraging Capabilities between Military personnel, Federal Civilians and Contractors**

SUBMITTED IN PARTIAL FULFILLMENT
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**AUTHOR: Maj Whitney Lee
United States Air Force Reserve**

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Mentor and Oral Defense Committee Member:

Approved: *Gene Louise Ankras*

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Oral Defense Committee Member: Wathan M. Packard, PhD

Approved: *W M Packard*

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Executive Summary

Thesis: Surge capabilities, enduring requirements, and technical expertise all drive resourcing within the DoD within a financially constrained environment, but a vital component to appropriate resourcing is absent: an overarching assessment of the employed force structure mix through a feedback mechanism that informs future planners and decision makers.

Discussion: The Planning, Programming, Budgeting and Execution (PPBE) process is comprised of Program Element Monitors (PEM) and Subject Matter Experts (SME) that reference historical context, doctrinally driven mission sets, the current operating environment and available manpower and resources when planning and programming for future years' requirements. This planning process lacks a vital collective feedback loop that could identify whether the planning and implementation of previous plans' force structure mixture met strategic objectives and completed mission requirements. The lack of feedback will limit maximization of manpower and resources in future years, because the effectiveness of previous force structure mix programming is unknown.

Conclusion: The problem speaks to the need for the aggregate mind of the defense community to become more self-aware, more capable of critical thinking, and more readily adaptive for organizational self-learning in order to create a necessary feedback mechanism that informs future planners, policy creators and decision makers.

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Preface

As a Logistics Readiness Officer in the United States Air Force Reserve, I have had the opportunity to work with a variety of Airmen of all statuses to include: military personnel, federal civilians and contractors. Each member of the Air Force support team brings a unique and necessary capability. As the Department of Defense operations tempo continues to increase as do fiscal constraints, it is imperative that the most cost effective and efficient force structure mix be employed to support our nation's Warfighter in defending the greatest country on the globe.

This paper is not intended to discount the energy and efforts of planners and programmers to research and decide on the most appropriate complement of forces, but it is intended to shed some light on the lack of feedback loop. A comprehensive review post operation to assess cost expenditure with mission effectiveness through a consolidated feedback system provides future planners the necessary details on lessons learned. Each force structure category provides an internal feedback system through readiness reporting, performance reports and appraisal systems, but the DoD lacks a consolidated look.

In order to maximize the capabilities of each force structure status, the DoD must perform a more comprehensive self-evaluation on how well the mission is accomplished utilizing all force structure options.

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**Balancing Air Force Support Force Structure;
Maximizing Capabilities of Military Personnel, Federal Civilians, and Contractors**

Maj Whitney Lee

I. Introduction

As the United States Department of Defense (DoD) struggles to balance capabilities while maintaining a lean, combat-ready force, it lacks a vital metric for assessing force structure. Military personnel, Federal Civilians, and contractor personnel are all integral to meet mission requirements, but the defense community lacks comprehensive analysis of the cost effectiveness of the combinations of force structure utilized, whether on average or from case to case. The Air Force is no exception. What does this right force structure mix look like for Air Force support functions? Efficiency does not constitute the sole criterion; surge capabilities, enduring requirements, and technical expertise, and financial constraints all determine resourcing within the DoD. Whatever the motivations, a vital component to appropriate resourcing is absent: an overarching assessment of the employed force structure mix through a feedback mechanism that informs future planners and decision makers.

The problem may seem to be one for bean counters and tactical analysts, but on a fundamental level it speaks to a broader problem within the Department of Defense. Any bureaucracy struggles with cost and quality control, perhaps none more than the DoD. However, when the many constituent parts of the organization – the problem solvers who do its work – fall under an array of oversight bodies, from the corporate world to the uniformed military to the Federal civil service, then the challenge becomes even greater. Who keeps track? Who measures effectiveness? Whose metrics apply? And if the individual parts maintain their own measures of effectiveness, applicable only to themselves, does *anyone* know whether the Defense Department has found the most effective use of its constrained resources? The problem speaks to the need for the aggregate mind of the defense community to become more self-aware, more capable of critical thinking, and more readily adaptive for organizational self-learning.

Such knowledge from an organizational perspective requires an objective feedback loop that provides analysis on the composition of forces used, for what purpose, and at what cost, and determines whether mission objectives were not only achieved, but achieved with the best complement of personnel. Each status of personnel maintains an internal feedback loop through readiness reporting, performance appraisals and performance reports, but these constitute internal metrics to individual organizations and statuses rather than a macro level of metrics to inform the all-encompassing DoD. Data are gathered and reported for specific requirements, but currently such data remains parochial within each reporting chain, rather than collectively gathered and compared against measurements of effectiveness in an effort to inform the DoD and other supporting departments. The Congressional Budget Office (CBO), Government Accountability Office (GAO) and the National Commission on the Structure of the Air Force have produced all reports by request of the Senate Committee on Armed Services on improving how the Services utilize and manage their total force capabilities. Each report includes proposed recommendations, but these reports lack comprehensive solutions based on their inability to effectively compare different statuses. Each report lacks statistical analysis on the most cost effective and efficient complement of forces due to the difficulty on comparing various resources.

While this lack of self-awareness on the part of the mixed force does not imply that there is an inherent problem with the current utilization, or that DoD is getting force structure wrong, but the vastness of unknown ramifications is cause for concern. Motivations for choosing one force mixture may expire and give way to new requirements. Without self-monitoring, any organization will become complacent and oblivious to threats and opportunities. Only constantly

striving to meet mission requirements with maximum cost-effectiveness will allow each organization to keep pace with a changing environment.

Managerial methods exist that could accomplish such self-monitoring. The Planning, Programming, Budgeting and Execution (PPBE) process is comprised of Program Element Monitors (PEM) and Subject Matter Experts (SME) who reference historical context, doctrinally driven mission sets, the current operating environment and available manpower and resources when planning and programming for future years' requirements. This planning process nevertheless lacks a vital collective feedback loop that could identify whether the planning and implementation of previous plans' force structure mixture met strategic objectives and completed mission requirements. The lack of feedback will limit optimal use of manpower and resources in future years, because the effectiveness of previous force structure mix programming is unknown.

The need for such feedback is especially important now. In recent years, commitments abroad have increased while materiel and manpower have decreased; although the current administration's intent is to increase the military budget and manpower, such compensation does not change the residual impacts of previous cuts. DoD will feel the disparity between resources and requirements for years to come due to lack of personnel to train and minimally maintained weapons systems and equipment. Impacts of Continuing Resolution (CR) and piecemealed funding significantly impact execution years and remaining years of the FYDP. A recurring lack of budget imperils implementation of force structure initiatives, contract renewals and the hiring of new Federal Civilians. Under such circumstances, the need for greater awareness of cost-effectiveness in the force structure mix only grows.

Organizations are fluid and ever changing; complexity theories are used to compare the nonlinearity of organizational dynamics with the nonlinearity of a complex system. Achieving

cost-effectiveness, however, is only one part of the challenge of managing force structure. Organizations, like complex systems, have multiple independent actors. Within the DoD as an organization, there are a multitude of independent feeder organizations and departments comprised of independent actors who themselves range across the various manpower statuses. The complexity of this organizational system requires both sufficient structure to create order and sufficient flexibility to adapt to changes within the operational environment. The PPBE process establishes planning and resourcing structure throughout the FYDP while execution year provides an opportunity to adapt to new or modified mission requirements as the DoD makes current year funding available. The problem arises that, as the complex system continues to plan within a structured process and execute within adaptive parameters; planning and execution may be conducted through assumptions and a narrowed lens from experience. The system lacks an objective feedback tool to inform decision makers on previously employed force mixes in preparation of planning and employing future manpower combinations.¹

II. Assumptions

In recent years, more support services are performed by a mixture of statuses rather than military personnel; the reasons for this mixture, however, are not entirely clear. In the absence of clear feedback mechanisms as to what has worked best in the past, planners tend to base their decisions on assumptions without verification. The logistics communities' predominant assumptions behind the current trend include a number of theories. For some, federal civilians offer more stability; for others, contractors offer a more cost-effective option than uniformed service members. Moreover, fiscal constraints potentially inhibit appropriate planning and execution of military personnel, so contractors are over utilized based on lack of available military personnel and a surplus of end of year funds during execution year. However much

these assumptions may prove true, however, there currently exists no way to verify them across an organization at large. Performance and readiness data remain “stovepiped” within individual statuses. Organization managers must devise a way to correlate metrics across the entire force structure mixture, and determine the impact of that mixture on mission accomplishment.

One might assume that, in the event of a failure in the planning process, there would be a plethora of data analysis available for review that would provide quantifiable data to compare cost and mission effectiveness between statuses performing different mission essential tasks. Surely, as manpower is the greatest cost within the DoD, analysis was conducted to ensure the most cost effective and mission essential use of forces employed. Upon review of various reports, one must conclude that such assumptions are for the most part disproven and the inverse is correct. The front end of the planning process is cumbersome, but as adaptable and streamlined as possible considering the size and complexity of the organization. The issue at hand actually resides on the backend of the process where the final step of critical thinking and feedback contributions are not analyzed nor utilized when informing future planning guidance and decisions.

III. Military Personnel Stovepipe

The mission of the Department of Defense is to provide a lethal Joint Force to defend the security of the United States of America and sustain American influence abroad. In support of this mission statement, the DoD provides military forces needed to deter war and to protect the security of our country. Currently, there are more than 1.3 million active duty and civilian personnel contributors. In addition, approximately 826 thousand personnel serve in the National Guard and Reserve forces.ⁱⁱ Three main titles comprise military forces, and these titles dictate permissible actions in support of the federal government and state authorities.

The FYDP contains data from each services' databases, and this information contains a budget year and four program years. The FYDP is updated through the annual PPBE process, and major force programs (MFPs) are identified to delineate funding for forces and major platforms or capabilities. Congress uses appropriation codes for resource allocation, and during the execution phase of PPBE there are limitations with appropriation codes. Active duty, Reserve and Guard appropriation codes differ not only for military personnel, but also for military construction (MILCON) and operations and maintenance funding. Military personnel funding must be executed in the year the funding is provided and end strength for each title code is closely monitored to ensure each Service is capable of meeting mission and readiness requirements, while also ensuring funds are executed within their applicable parameters.

The Defense Readiness Reporting System (DRRS) is a database that assesses US military preparedness and its ability to meet National Military Strategy (NMS) objectives. Units self-report their manpower, training, equipment and maintenance statuses in relation to assigned Mission Essential Tasks (MET) and DRRS identifies associated risks with reporting shortfalls in order to increase transparency in capabilities and provide rapid awareness. DRRS was actually developed in an effort to integrate data that was previously stove piped to provide real-time readiness standings in support of operational plans.ⁱⁱⁱ Although, DRRS may be a step in the right direction by consolidating military readiness data, it does not include metrics of federal civilian or contractor equipment, services or maintenance functions, nor does it indicate how they impact DoD readiness as a whole. DRRS does incorporate Combatant Commander (CCDR), Military Services, Joint Chiefs of Staff (JCS), Combat Support Agencies (CSAs), Secretary of Defense (SECDEF) and National Guard strategic guidance and units' abilities to meet mission requirements through assigned tasks however; military personnel are only one third of the force

that provides support ultimately feeding into DoD readiness or lack thereof. (DRRS DoD Program Doc FY16). DRRS made headway as an integration tool, but only provides readiness measurements of effectiveness in regards to military personnel.

IV. Federal Civilian Stovepipe

Federal Civilian personnel provide continuity to organizations as military personnel rotate consistently, and contracts awarded have less than five option years. The level of expertise and experience within that field adds an immense amount of value to any organization, but how is that value measured? The Office of Personnel Management (OPM) was appointed as the overseer of civilian employee management and applicable policies, benefits, career progression and utilization. In 2017, OPM introduced a new DoD Performance Management and Appraisal Program (DPMAP) in an effort to provide more regular assessments of both federal civilian performance and organizational goal completion. Employee performance plans are aligned with and support organizational objectives based on strategic and operational goals. Performance plan criteria are drafted with an intent to maximize employee efforts on meeting performance elements while also achieving organizational and team goals.^{iv} Beyond individual performance plans married up with organizational goals, there are no further measurements of effectiveness in regards to Federal Civilian utilization as a cost or effectiveness metric.

Historical data should exist for assessing the effectiveness of the federal civilian workforce. In 1990, Title V Public Law 101-509 directed OPM to review the productivity of the Federal Workforce and report back to Congress within 24 months with recommendations on how to increase productivity, improve services, maximize efficiency through organization, training, technology and transformative management, and utilize lessons learned by other agencies to establish appropriate goals and improve processes in place.^v While the directed report from

more than 20 years ago is not readily available, OPM has more recently established a Data Analysis Group (DAG) that researches and produces Federal Employee Reports. The DAG provides OPM management, the President, Congress and customers data and analysis from its Enterprise Human Resources Integration-Statistical Data mart (EHRI-SDM) rather than sending raw data and special reports to various entities. The EHRI-SDM produces recurring and by request reports that can be found on the OPM website. According to open source reports, the preponderance of the content assesses Executive Branch salaries, size, retirement statistics and participation in benefits. Employment and trending analysis only goes back to 2009, and solely addresses accessions and separations of Federal Civilians.^{vi} A cost effectiveness and efficiency feedback loop for Federal Civilians is missing within their internal organizational structure. OPM maintains the internal feedback loop through DPMAP, but there is no integrated system that incorporates federal civilian contributions to readiness reporting or mission accomplishment under the current organizations comprised of mixed force structure. The Federal workforce provides a unique capability that is not captured in a centrally managed database. Captured data could be used to determine whether federal civilians could replace or supplement military or contract personnel in some roles.

V. Contractor Stovepipe

As manpower and resources have declined relative to commitments and operations tempo, contractor use has escalated since both the Vietnam and Cold War eras, but it is not clear whether the increased use of contractors increased due to the decrease in manpower, or contracts are leveraged due to innovative practices and technical expertise while correlating military manpower declines.^{vii} Contractors were utilized in the early Cold War in support of complex technology projects that private contractors were more prepared to complete, such as the creation

of the Research and Development Corporation (RAND), a nonprofit think tank, and other nonprofit contract research and management organizations.^{viii} Although this example shows private contracts fulfilling a technological need, an alternate example of a renewed interest in 1996 is in outsourcing manpower due to shrinking defense budgets and military forces downsizing.^{ix}

Based on a review of the increase in the use of contractors in the early 2000s Blizzard attributed the influx to cuts in military personnel, greater emphasis on privatization of functions more efficiently performed outside of the military, further reliance on contractors because of growing complexity of weapon systems, and lack of core military expertise, training and flexibility due to legislative host country-mandated troops ceilings.^x All of these points are rational, but there is a significant lack of quantifiable data, statistics, or metrics clearly identifying the rationale in the use of various contracts, at what cost, for what specific purpose and what the long term strategic plan is for the service or expertise provided. “In 2008, logistics and base support accounted for more than half of the 265 thousand contractors in Iraq; acclaims that contractors are normally more skilled in their areas of expertise, and that military personnel cost more than uniformed personnel.”^{xi}

Joint Publication 4-10 Chapter III, Contract Support Integration, clearly notes a distinction between contractor and uniformed functions. As the doctrinal publication states, “Operational Contract Support (OCS) planning and coordination is primarily an operational, not contracting function. Additionally, the Geographic Combatant Commander (GCC), the Joint Force Commander (JFC), and supporting component commanders determine support requirements and the appropriate amount of support organic support, multinational support, host nation (HN) support, or contracted support.”^{xii} Overall, doctrinal guidance does address the

importance of including OCS considerations throughout the planning process, roles and responsibilities within the joint staff to effectively plan, coordinate and identify management processes upon execution, but it leaves a large margin of flexibility to the GCC and JFC to posture forces with their chosen mixture. JP 4-10 does not address for which services OCS are necessarily best suited due to the array of services that can be provided. The joint staff should serve as a checks and balances to ensure force structure posturing is the most efficient use of government resources while meeting mission objectives. This level of commander discretion provides adaptability and flexibility, but it lacks a streamlined, measurable approach. Each conflict or mission objective may require a different layout of forces, While a cookie cutter approach is not effective, since one force laydown many not be amenable for a different requirement, the point remains that, without an appropriate, integrated feedback loop a commander cannot know what the best use of forces looks like.

Annually, a Contractor Performance Assessment Reporting System (CPARS) serves a forum for the customer - i.e., the Federal government - to provide feedback on contract performance and to determine whether objectives were met. Each contract serves as a case by case scenario due to varying requirements, performance criteria and quality assurance (QA) processes, including those managers performing QA functions. Contracts over \$100M have a Cost Schedule Data Report (CSDR) feedback requirement that reports the actual cost throughout the contractor performance. Earned Value Management also tracks the cost of the contract as it pertains to the cost associated with the actual contracting schedule. Return on Investment (ROI) cannot be assessed similarly as a for profit company. In order to assess whether the DoD received their ROI, more effort needs to be made to define that ROI. The Air Force, for example, is not like a company where ROI is relatively easy to calculate in terms of increased

revenue or profitability because the DoD is not a profit generating entity but actually the opposite. Upon award of a contract, the contractor delivers what was asked of him or her, and that contract is deemed successful. The Air Force gains a good or service that they paid market value for, so by traditional calculations of a corporate ROI this would be a poor agreement, but for the DoD it is considered a successful arrangement based on the achievement of established objectives.^{xiii} There are no formal post-award metrics of data gathering in relation to cost of contract performance compared to services or goods produced by other statuses. Apart from the initial government estimate when drafting a solicitation, there is no feedback mechanism to assess whether the services performed accomplished at the initial cost estimate, as stated in the initial solicitation, or whether the contract cost was more than originally expected. Additionally, there is no centralized data system to consolidate performance criteria with services provided and compare efficiencies or lack there- of.

VI. Comparing Costs

The lack of comprehensive metrics for force structure effectiveness poses an ongoing problem. As fiscal constraints continue, cost effectiveness remains a critical piece of information when planning and programming for any resource. Balancing cost effectiveness and level of service provided is a constant struggle. Lowest cost is not always the most desirable basis for such analysis, and some functions do not lend themselves to contractors or federal civilians. Military personnel offer additional flexibility, but that comes with an additional cost not captured with their income upfront. federal civilians may appear to be more cost effective than military personnel, but their Position Descriptions (PDs) offer less flexibility, and there are mobility restrictions. Contracts capture the overhead cost upfront and offer a great deal of flexibility, but the level of services performed are only as good as the requirement written by the

customer. Often the Performance Work Statement (PWS) is missing the necessary level of fidelity to ensure the services performed meet organizational goals and missing requirements, thus leaving the potential for a capabilities gap and degradation in service to the Warfighter.

In an attempt to pair the correct manpower status with each requirement, the DoD created a Department of Defense Instruction (DoDI). DoDI 7041.04 outlines DoD policy on estimating and comparing the full costs of civilian and active duty military manpower and contract support. This instruction provides details on policies, roles and responsibilities, and appropriate business rules to compare full costs, goods, and services provided by each applicable status. The DoDI offers Table 1, direct labor cost elements for military and DoD civilian personnel, of which provides cost comparison(s) between fixed costs such as base pay, child development centers, and commissaries versus deferred pay such as medical and retirement benefits. DoDI 704.04 focuses on how to perform a business case analysis or economic analysis on how to develop the most cost-effective force. The outlook is thus prospective rather than retrospective. There are no details that describe how to perform an appropriate program review and assess the effectiveness of services or goods provided to either support or negate the analysis that was done prior to programming.^{xiv} This DoDI would prove more valuable if it provided a template for a feedback loop to compare the cost estimates and measurements of effectiveness that were selected up front, the selection of manpower status, and an annual analytical review of whether the most affordable and effective selection was made.

In 2005, the Senate Committee on Armed Services requested the Congressional Budget Office (CBO) to evaluate alternative mixtures of military personnel, federal civilians and contractors that could support the Army's deployed combat forces. The CBO looked at four options that would vary the mix between three labor categories based on cost, flexibility and

legal considerations. Immediately, the CBO noticed that it was difficult to compare different labor categories due to the variety of compensation packages and method in which personnel funding is both appropriated and expended. For example, in 2002, only forty three percent of the total compensation package for active duty military personnel was the actual pay of the personnel. The preponderance of the military cost was retirement pay, commissaries, housing, health care, both current and deferred, and other benefits that play a role in the cost of military personnel, but not captured in their actual pay.

The CBO attempted to convert these additional elements into a type of cash equivalent, but remains an inadequate comparison due to the differentiation in overhead costs and equipment inconsistencies between the labor categories. The CBO did find that contractors may increase productivity based on less stringent organizational structure, workforce footprint restrictions and training requirements that limit flexibility in a military organization. Additionally, the regulations and policies that contractors abide by are more flexible with respect to pay, benefits, hiring, and promoting or firing of personnel who are or are not performing. The question thus arises whether it is desirable and in the DoD's best interest to have a variety of standards for different labor categories, as, this arrangement presents potential disparity not only between work performance, but also between intermixing various labor categories to do similar work with disproportionate pay and benefits. From a legal standpoint, different statuses present different challenges based on command and control of multiple labor categories along with certain professional fields and associated tasks based on Law of Armed Conflict (LOAC) regulations and combatants versus noncombatant statuses.^{xv}

OSD encourages the use of contracting through the implementation of best practices to strengthen the DoD's buying power, improve industry productivity, and provide an affordable,

value-added military capability to the Warfighter, but this approach can be extremely subjective.^{xvi} JP 4-10 provides GCCs and JFCs the authority to select the correct mixture of forces, but if selections are made based on assumptions and experience without any objective data on historical context of forces used and the level of effectiveness post operation, are commanders really making the most informed decision? Are they as self-aware as they assume based on a lack of data available and critical thought provided?

VII. The absence of a comprehensive feedback loop in a complex adaptive system

Linear systems respond to preset, predictable changes within parameters or to external shocks, in a proportionate and consistent manner. Nonlinear systems are dynamic between variables throughout the life of the system. As relationships change, the behavior of the system may change, and this ever-changing relationship has potential to continuously generate new system behaviors and structures.^{xvii} The DoD serves as a nonlinear complex adaptive system that is constantly changing and adapting based on operating environment parameters and changing requirements. Flexibility is a critical component in any nonlinear system, but a balance must be found between performing foundational, mission-essential tasks while adjusting processes and resources to combat emerging threats and revised mission objectives. It is important to understand the system as a whole, and how previously employed methods not only have an impact on available resources today, but also inform decision makers' perspectives based on experience and expertise is critical to increase self-awareness and facilitate an environment conducive to feedback loops.

The concept of single-loop and double-loop learning, created by Argyris, defines types of learning and transitioning from single-loop learning, mere problem solving, to double-loop learning that requires an advanced level of introspection and self-awareness. Motivation to solve

a problem and the desire to learn is not enough in a complex adaptive system. One must ask self-examining questions on what the single-loop solution offers as a basis for resolution. Although Argyris uses this concept in reference to a single leader within an organization attempting to facilitate transformative change, it can also apply to an organization as a whole. The DoD identifies limiting factors and seeks a rapid solution of increased funding or manpower, but perhaps Defense Department and supporting agencies should conduct more self-reflection to assess whether critical components of the problem at hand were adequately incorporated prior to making decisions. The lack of fidelity in assessing current implementation of forces offers that DoD assessments in planning are not as self-aware or adaptive as they should be.^{xviii}

VIII. Strategic Guidance and Posturing the Force

While measurements of effectiveness focus on the back end of planning, strategic guidance, and desired end states are equally integral to the success of any operation. Without strategic guidance to establish the intent of an operation, it is impossible to determine what resources are required to meet the intended end state. Resourcing appropriately, with both equipment and personnel, is a must to ensure mission success. Measures of effectiveness will serve as the feedback loop to determine whether milestones and intended goals are met, but those goals must be clearly articulated in the first place. Personnel cannot be resourced and postured correctly if objectives are not clearly defined. An integrated force structure between civilians, contractors and military personnel is necessary to maximize talent and capabilities, but, without strategic guidance, force posturing seems to be an afterthought. Finding the purpose and desired end state of war is not new, but rather a consistent problem set since the end of World War II. Policy ambiguity stems from politics within a democratic society, thus resulting in unclear guidance. The lack of clarity in intent creates a ripple effect of ineffectiveness due to a lack of

resources and personnel, or misinterpretation of the overall intent at the beginning. There must be deliberate time and effort invested in how much of the US military should be involved in local operations, and what the DOD is willing to resource and for how long. Policymakers are responsible for defining the purpose and desired end state, but also for resourcing the objectives properly.^{xix}

To a certain extent, such ambiguity forms part of the fog of war. “Once war has been seen the difficulties become clear; but it is still extremely hard to describe the unseen, all-pervading element that brings about this change of perspective.”^{xx} As lessons learned and after-action reports are consolidated post conflict, it is easier to recognize missteps and areas of improvement, but when planning for a conflict that has or has not occurred yet, it is obviously more difficult. Security imperatives make up strategic guidance, and based on those objectives budgetary requirements for resources and personnel follows. The fog of war, which requires forecasting what is required in a conflict, based in part on historical context and in part on educated guesses as to current or future circumstances, is truly a nonlinear system. There is no exact algorithm or solution that applies to predicting the course or outcome of any given conflict; therefore, there is no exact algorithm that can predict exact requirements for said conflict.^{xxi} Despite such perennial ambiguity, however, we can do better with the data we do possess. Decisions in war may be based more on probabilities than on precise calculations, but metrics do help provide context and comparison.

IX. Studies to Date

The need for a comprehensive feedback loop against measurements of effectiveness is not a novel concept. Research and valiant efforts were made to create an all-encompassing report that acknowledges historical context while also planning for future years through resource

and force structure comparison. To date, numerous attempts have been made to achieve a comprehensive product that addresses all force structure mix options, and reports on support functions and force structure feasibility, to no avail. Maximizing force structure capabilities within budget limitations remains a primary concern, but the difficulty of performing cost comparisons across the vast number of appropriations made, coupled with differences in existing measurements of effectiveness, proves to be a “wicked problem.” No conclusive data exist that depicts one status is a definitively better option than another status. Cost, mission requirements, strategic intent, and end state deliverables all generate stove piped recommendations within each organizational hierarchy.

As the environment changes, so does the force structure composition; the motivation for that change, however, remains ambiguous. Is it based simply on fiscal constraints and manpower availability, or does the private sector provide other benefits to warrant outsourcing various capabilities? General Ronald Fogelman, previous Chief of Staff of the Air Force, believed that warfighting should be designed for effectiveness and support should be designed for efficiency, therefore, support activities not deployed for combat will be best performed by a robust civilian and competitive private sector.^{xxii} This position is a sensible approach to seeking a force structure mix that maximizes ingenuity and capabilities while complementing inherently governmental functions within fiscal limitations. Nevertheless, we lack processes for gathering and analyzing data to measure the effectiveness of this structure relative to the overall cost and to the stated mission.

In 2014, the National Commission on the Structure of the Air Force issued a report with 42 recommendations for improving how the Air Force manages its total force. Several of the recommendations related to shifting some active mission sets to reserve component forces. In

2016, Senate Report 114-49 included a provision for GAO to review Air Force progress in meeting previously identified recommendations. GAO found that the Air Force had made limited progress in implementing the recommendations, and had only closed six of the 42. Some progress occurred with the establishment of the Total Force Continuum (TFC) office within the Headquarters Air Force (HAF) Directorate of Strategic Plans. The Air Force created a revised force mix process, managed by TFC, through a compilation of data analysis from Major Commands (MAJCOMs) and from the office of the Assistant Secretary of the Air Force for Financial Management and Comptroller cost data, stakeholder input (i.e.; Active Duty, Reserve and National Guard components), and assumptions. Proposals containing a number of force mix options are briefed to senior leaders for consideration and budget planning. Stakeholders' views, concerns and risk implications presented at force structure reviews provide senior leaders an opportunity to choose alternate mixtures, and this review feeds into the planning process.

Although this approach seems to be an acceptable method for better planning and leveraging the Total Force, it too only addresses one status: the military personnel component. Even using military personnel as the sole focus, GAO acknowledges it is a new approach and has yet to be proven as a model for cost savings or efficiency. The GAO further recommends that the Air Force needs to implement more deliberate performance measures to assess the feasibility and success of these new initiatives, because without performance measures Air Force leaders may lack key information to assess progress or shortfalls.^{xxiii} Based on the results of the GAO report that calls for more performance measures for military personnel alone, one can discern even more clearly the need for a more comprehensive feedback loop to evaluate success or limitations in previously implemented force structure mixes.

In addition to the GAO, the CBO has looked at the force structure problem for support functions. The CBO developed four potential options that would vary the mixture of military personnel, Federal Civilians and contractors within the logistics and maintenance communities across services. One option highlights task accomplishment based on wartime versus peacetime periods; during wartime periods military personnel could perform the same tasks as contractors, but cost changes taking peacetime periods into consideration. Reviewing both wartime and peacetime costs, the CBO calculated that the Army's total cost would be close to ninety percent higher than the contractor's cost due to rotation requirements in support of Army deployments.

Option two recommends that the DoD rely more on Federal Civilians to perform logistics support. Federal Civilians can perform inherently governmental tasks and can manage other military professionals. There are a few negative implications with this course of action. The Civil Service hiring process is quite lengthy, the General Schedule (GS) salary is rigid, and the stated salaries may not adequately compensate federal civilians based on the work requested or the austere environment in which requested to perform them. Normally, federal civilians are not postured within the organization's deployment cycle. The inherent challenges in increasing deployable Civilian positions would potentially deter or disqualify applicants, while also requiring a change in readiness reporting through DRRS. CBO acknowledges that a thorough cost analysis was not performed, but that considerations show this option would be less costly than military resources, but costlier than contract personnel. The lack of detailed research conducted for this option is surprising considering cost is one of the three major categories from which these recommendations were drafted.

Option three recommends that the DoD substitute federal civilians for deployed contractors who support weapon systems. Currently, when weapon systems deploy a small team

of contractors and civilians who assist in the maintenance at home station supplements military maintenance personnel in the deployed area of operation. The CBO proposition suggests that contractors should replace contractors and any supplemental assistance to military personnel should be provided solely by federal civilians. Again, CBO did not conduct a detailed cost analysis for this option. Their rationale for lack of analysis is summarized in one phrase: it was too hard. The range of base salaries of federal civilians with similar skills compared to the total cost of services provided by contractors compared to the inherent cost of personnel management of civilians just presented too many variables to compare, so the comparison was not done.

Option four recommends that DoD establish a new type of military personnel the Sponsored Reserves. This proposal asserts to create an entirely new labor category that blends characteristics of contractor personnel with military reservists. Given that option three foundered on the fact that experts already had too many different variables to analyze, adding another labor category may only increase confusion and prohibit, rather than assist, analysis capability. During peacetime, individuals would work for defense contractors while also participating in the Inactive Ready Reserve, and those contractors would then deploy as activated reservists during conflicts. Individuals would be defense contractors rather than federal civilians during peacetime. The intent of this option is to create the sponsored reservist labor category in the hopes of decreasing active-duty end strength. This recommendation requires a more thorough review. There are currently military reservists employed by defense contracts who are then activated and deploy in an active military status during conflicts. Additionally, to utilize this new labor category in an effort to decrease active duty end strength is a dangerous proposal. Although reserve forces are no longer seen as a strategic force due to the increase in operations tempo and force utilization, doctrine, resourcing and policies all differ greatly between active

duty and the reserve component. Different title codes, funding appropriations, federal and state missions, and full time and part time manpower inhibit the feasibility of replacing one status with another.^{xxiv}

X. Recommendations

Assumptions based on heuristics and experience may often drive policy more than senior leaders realize. The lack of clarity on true cost and mission effectiveness by means of a tangible feedback loop has the propensity to maintain cyclical assumptions rather than produce a best fit solution. The problem speaks to the need for the aggregate mind of the defense community to become more self-aware, more capable of critical thinking, and more readily adaptive for organizational self-learning. In order to reform present practices, a combination of the current planning process and an innovative comprehensive solution must be employed. Some components already exist but need refinement; others need to be created.

First, strategic objectives must be clear to allow Service Chiefs to posture forces accordingly through appropriate planning, programming, budgeting and execution. Second, although the range of processes in place for analyzing and developing the right force structure in support of home station and contingency operations is comprehensive, and those with primary responsibility for cost estimates and technical expertise are subject matter experts, it is impossible to effectively manage and plan for the correct force structure if a thorough review and honest comparison of financial investment, resource management, and services provides is not conducted.

A standardized database or repository of comparable data must be gathered and analyzed to compare costs and measures of effectiveness between various force structures. Military

personnel are a costly but flexible utilizing performance reports and DRRS to assess individual performance and organizational readiness. Federal civilians offer stability and continuity utilizing Position Descriptions (PDs) and DPMAP to motivate and measure individuals to meet organizational goals through individual excellence. Contractors offer additional flexibility with less deferred costs and execute to Performance Work Statement (PWS) requirements that are customer driven. CPARS and Quality Assurance (QA) mechanisms provide feedback to the contracting agency on level of service and potential modifications. Each of these statuses have one or more feedback loops within their individual stovepipes, but each manpower status is tasked either directly or indirectly to support the NMS and NSS.

DRRS provides Mission Essential Task Lists (METLs) that link Service Chief capabilities and gaps to NMS and NSS. DRRS is the connecting file between the force structure mix and supporting strategic imperatives. Individual feedback loops among contractors and federal civilians are currently automated systems. DRRS currently serves as a feeder system that gathers and consolidates Service training data from a variety of systems that feed into DRRS for readiness reporting metrics. DRRS should become a more comprehensive depository that allows each individual stovepipe of feedback from various performance measures to feed into DRRS. Each measurement of performance or effectiveness is directly or indirectly linked to the METLs provided in DRRS. Analysts should create a method to pull applicable data into additional DRRS features that can gather, filter, and objectively compare mission accomplishment while utilizing a cost comparison as a frame of reference. Mission Essential Tasks are the common denominator between each status of manpower. Although how each category contributes to the established organizational MET, this is the force integrator. DRRS capabilities should be enhanced and maximized to provide a more holistic approach to force structure mix in support of

US military objectives. Third, the feedback loop is not necessarily about the bottom dollar; mission effectiveness and level of service should not be sacrificed for a lower cost. Based on mission essential tasks, some criteria should be weighted differently amongst the performance measurements. Fourth, based on data gathered and comparative analysis conducted, lessons learned should be employed. Historical data may not provide an exact solution for future force structure PPBE. However, it has the potential to validate or invalidate assumptions, provide historical context on successes or failures, and objectively inform senior leaders.

Finally, to generate such data where none may yet have been captured, a comprehensive metric for force structure effectiveness needs to be built into the planning process. DRRS, along with DPMAP and other OPM tools, provides a basis on which to build, but the weak link thus far appears to be contractor data. Going forward, after several years, analysts will have gathered sufficient data to provide comparison of result with initial estimates. DRRS is the most available solution, that with a few modifications, could provide the comprehensive feedback loop the DoD needs to compare cost and measures of effectiveness in an integrated way.

Endnotes

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