

OUTSOURCING THE SINEWS OF WAR: CONTRACTOR LOGISTICS

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To meet the Army's logistical needs, Ferris and Keithly urge Army logisticians to identify and maintain proficiency in a few essential logistical functions—core competencies—and outsource the rest to commercial contractors, a practice they cite as a commercial best practice.

THE RECENTLY LAUNCHED revolution in military affairs (RMA) has fostered increased interest in developing an integrated logistics system.¹ Both military commanders and civilian policy makers are attempting to increase logistics efficiency by reducing unnecessary spending on the military tail, but regrettably, existing studies of what might constitute an integrated, 21st-century logistics system are often inadequate.

An integrated logistics system must be as dynamic as the warfighting community it supports. In this sense, the RMA is predicated on a revolution in military logistics (RML), which integrates force sustainment, force projection, technology application and acquisition dexterity.² The Army is already developing a streamlined logistics system that links the logistics community's various components into networks. Increasingly, this system must be joint to meet the demands of dynamic, information-age warfare that requires new levels of interconnectivity and interoperability.³ The Global Combat Support

System that will soon be on line represents a major step toward achieving the RML.⁴

The RML system will be distribution-based, using what are generally referred to in the private sector as commercial best practices to enable leading-edge organizations to perform to world-class standards.⁵ Electronic commerce, direct vendor delivery, load optimization, integrated supply-chain management and automated identification technology are the chief components of commercial best practices the RML seeks. Ultimately, the RML will generate a virtually seamless distribution system and an integrated information network with real-time asset and activity tracking.

The RML requires the military logistics system to focus its attention on managing information and distribution rather than inventory.⁶ This focus will, in turn, require sophisticated technology to provide the necessary asset visibility, point-of-service tracking, automated materials handling and intermodal information networking necessary for a 21st-century logistics system.⁷ Mass is counterbalanced by veloc-

ity as asset flows obviate the need for large stocks of inventory. Assets are moved so efficiently that allocation pipelines effectively become RML warehouses; large stockpiles formerly held in anticipation of service requirements become unnecessary. The services will no longer sustain the force structures to requisition, supply, and transport parts and equipment in the battlespace. Increasingly, third-party logisticians will assume many of these tasks.⁸

The RML further assumes that materiel managers will have accurate data from digitized weapon systems, real-time situational awareness and uninterrupted contact with the operators they support. RML repair managers will use the seamless information network to synchronize skills, labor, parts and special equipment, ensuring that assets are at the right place at the right time.⁹ Such aspects of the RML will require a work force trained to use and maintain this technology.¹⁰ Purchasing this equipment and training the work force compete against weapon systems for limited Department of Defense (DOD) budget dollars. Training dollars must be allocated to ensure that service personnel are educated to operate this technology, further squeezing warfighters' training budgets. Support services must expand to handle increasingly sophisticated equipment.

Competition between logistics and the warfighting components for resources ultimately impacts DOD's core competencies, a business concept C.K. Prahalad and Gary Hamel cogently analyzed in 1991.¹¹ They define core competency as an essential combination of skills and technology. They underscore that organizational success is determined by excellence in a small number of core competencies. Because these competencies are so crucial, the organization must maintain a preeminent operational capability in them. Noncore competencies are outsourced. Outsourcing noncore competencies is an established commercial best practice that can lower costs and facilitate the acquisition of cutting-edge technology. Prahalad and Hamel further argue that the race for the future is partly a race to build and use core competencies.¹² Because these competencies are so important to an organization's well-being, it must prevent them from withering.

An organization's core competencies should have unique capabilities, and the organization should perform them to world-class standards. Organizations should conduct periodic reviews to assess whether they are investing enough resources—time, money, training—to maintain proficiency in core competencies and plan ways to improve the skills on which

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they rely. When judiciously exercised, outsourcing heightens performance, produces a streamlined work force and provides the best personnel. As a rule, specialization contributes to economies of scale and helps simplify organizational structures. Proper logistic outsourcing will permit the armed services to focus on their respective core competencies. In short, outsourcing frees personnel to focus on what they do best.

Recent thought has raised questions concerning what functions of the military logistics infrastructure should be included in this set of core DOD competencies.¹³ If DOD is to retain the Armed Forces' warfighting capability as a core competency, the private production of defense services should expand. As the 21st-century battlespace changes, so too must the logistics network.

That All May Labor as One

The influence of the RML, along with current pressures on the military to do more with less, has caused the defense community to notice private enterprise's commercial best practices that can sharpen an organization's competitive edge. The commitment to commercial best practices, a commitment expressed in service logistics mission statements, is a critical element of the RML sweeping through the armed services. Among the most widely implemented best practices are outsourcing specialized logistics functions and fully integrating contractors with military activities. The Army, for instance, uses contractors for base operations (BASOPS) support activities and has used contracts extensively with Brown and Root to furnish logistics support for its operations in Bosnia through the Logistics Civil Augmentation Program (LOGCAP).¹⁴ The Army also has a prime vendor support arrangement for the Apache helicopter with Boeing and Lockheed Martin. The Navy is institutionalizing logistics contracts

Probably the chief issue from an operational standpoint is the need for unqualified vendor reliability. Contractors must keep their employees in theater and on the job when hostilities begin. Indeed, they must be able to provide even more personnel as demands for support mount. Further, a parent company's subcontractors must be as dependable and steadfast as the primary contractor if operations are to continue unabated. If personnel shun dangerous work or insist on repatriation, the support system will break down.

through Paladin Fleet Management.

More indicators of the Army's growing commitment to outsourcing can be found in its publications. Draft Field Manual (FM) 110-10-2, *Contracting Support on the Battlefield*, contains doctrine describing how the armed services should use and manage civilian contractors in the battlespace.¹⁵ US Army Training and Doctrine Command Pamphlet (TRADOC Pam) 525-53, *Combat Service Support*, specifies that "Civilians . . . will provide an ever-increasing number of capabilities in support of future Army operations. Use of these support personnel will require their integration into the battle command environment and into the CSS framework, as well as mission training for the civilians involved."¹⁶

Recent emphasis on cost efficiency in DOD has not produced either a reduction in the military's operational tempo or the infusion of new personnel from a Reserve mobilization. The shortage of support personnel to meet operational demands will linger into the foreseeable future. DOD will increasingly be required to assume tasks with insufficient resources, and the logistics community must minimize the costs of their services. Logisticians find themselves under increasing pressure to deliver combat service support at the lowest possible cost while satisfying all acceptable specifications and criteria. Mounting demands and the need to trim budgets have induced DOD to consider alternative mechanisms for delivering logistic support.

The RML requires a comprehensive examination of commercial best practices to handle 21st-century warfare. Integrated supply-chain management, electronic commerce, automated identification technology, direct vendor delivery, load optimization and smart simple design are facets of commercial best

practices the armed services must examine in implementing the RML.¹⁷ Information technology now available from global enterprises provides the means to facilitate supply-chain management, integration and optimization. Using software to manage the supply chain should coordinate several diverse processes, including supply and demand planning, transportation and distribution management, and scheduling. Management-costing techniques can reduce inventory and total product time, increase on-time deliveries and revenues, and improve customer service.¹⁸ Commercial best practices that specifically apply to the RML can help military logisticians:

- Better manage stocks, resulting in significant reductions in procurement.
- Improve contracting methods to secure lower prices through bulk purchasing or increase their use of competitive tendering.
- Reduce operating costs through more efficient use of capacity.

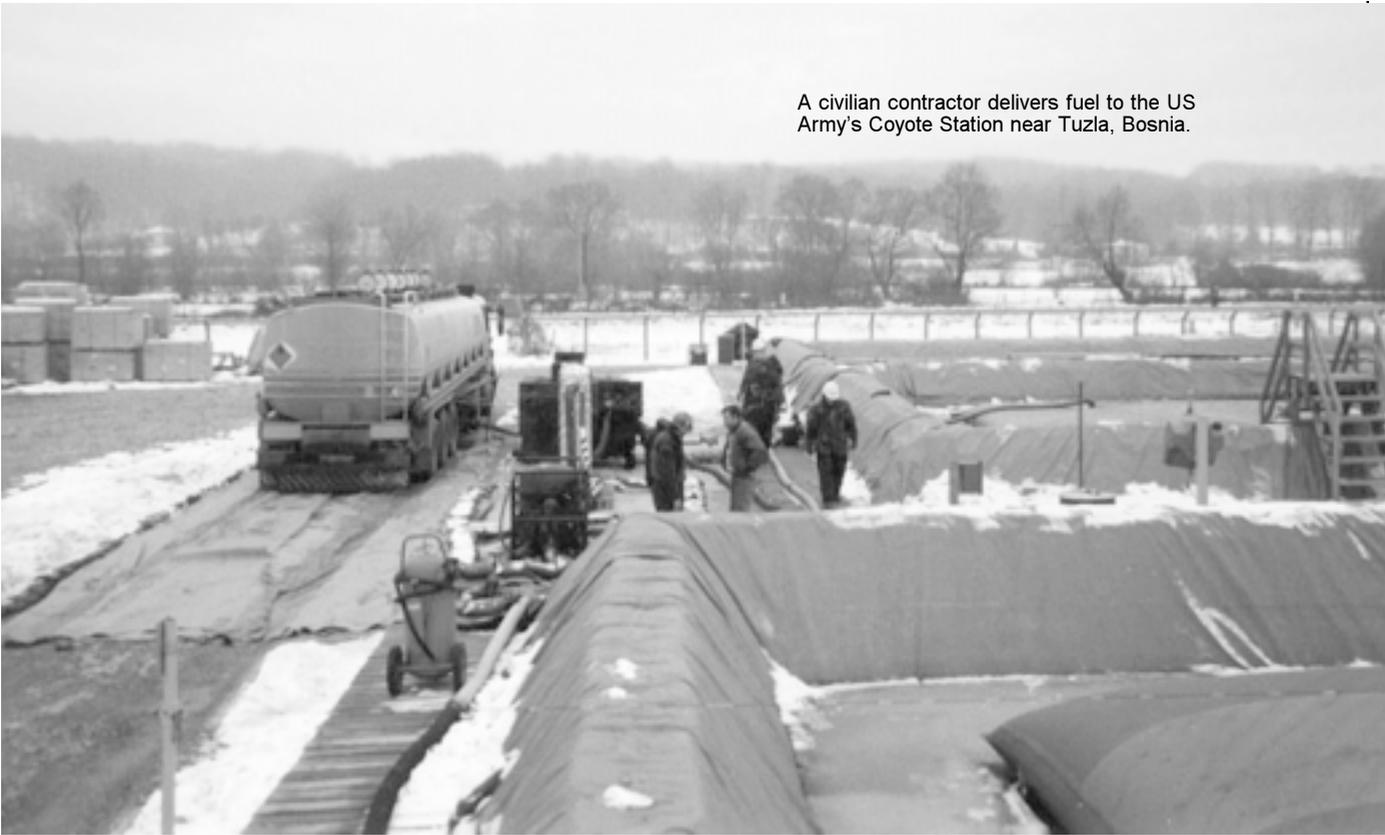
Ultimately, the decision on which private-sector best practices will be adopted or contracted will depend on military needs.

War Lays a Burden

Military contractors—private citizens and commercial firms providing the sinews of war—operated in North America long before the United States was established.¹⁹ Since contractors furnished food, clothing, shelter and labor to the British forces in America in the early 18th century, the colonists had experience with contractors and were aware of the advantages and disadvantages of their use.²⁰ Several years after the outbreak of the American War of Independence, the Continental Congress concluded that contracting with commercial firms was necessary to provision and outfit the military forces, and accordingly, major contracts were concluded by 1781.²¹ Two years later, General George Washington observed that his army's supply had improved with the contracting system. Yet, experiences with private contracting even early in US history reflected many of the difficulties that would continue during periods of force expansion or mobilization: inconsistent contractor performance; the contracting parties' insufficient clarity regarding requirements and costs; lack of experience on the part of military officers in dealing with contractors; and finally, the inclination of some contractors to cut corners or overcharge the government.²²

At the time that war broke out in 1812, national arsenals were supplying the Army with arms and ammunition, but private firms provided subsistence,

A civilian contractor delivers fuel to the US Army's Coyote Station near Tuzla, Bosnia.



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clothing and transport. Unsatisfactory contractor performance prompted the creation of the Quartermaster, Subsistence, Medical and Ordnance Bureaus of the Army Staff in the 1820s. The Navy had similar institutions in place before this.

The Civil War further increased the use of contract logistics by both the Union and Confederate armies, whose growth in the 1860s necessitated increased use of battlefield contractors in a number of areas, especially construction, labor and transportation. Yet, contract expansion was not commensurate with the increased size of both the Union and Confederate armies and the number of freed slaves available for military work details. From the end of the Civil War until the turn of the century, the Army continued to supplement its own resources with private contractors to provide subsistence and transport.

The Army relied on railroads, commercial wagon trains and its own wagons driven by civilian teamsters to supply Western installations.²³ In 1912, the Quartermaster, Commissary and Pay Departments were consolidated, and the Quartermaster Corps was created as an organization of enlisted personnel detailed to work at logistics tasks.²⁴ Despite a high level of civilian mobilization during World War II,

contractors appeared with increasing frequency in the battlespace because of the growing sophistication of weapons and equipment. Manufacturers' technical representatives became a welcome supplement to military logistics and maintenance units, and civilian contractors were instrumental in establishing ordnance repair facilities in many parts of the world.²⁵

The Korean War brought much lower levels of manpower and industrial mobilization, in turn, boosting reliance on battlespace contractors.²⁶ Japanese civilians, in particular, managed logistics operations in Japan to support US forces in Korea. The Japanese automobile industry, along with a number of other manufacturing sectors, received a large boost from the Korean conflict and ultimately gained world-class status. Because of low mobilization levels during the Vietnam War, military contractors again became indispensable. Given the lack of skilled labor in Vietnam, contracting organizations often hired US and third-country nationals, and by 1969, an estimated 52,000 non-Vietnamese contract personnel worked in Vietnam.²⁷ Private contractors provided construction, base maintenance, fuel supply, water and ground transport services, and

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support for high-technology systems in operational zones. The largest contract was for operating and maintaining major installations, and the leading construction contractor was Richardson-Morrison-Knudsen-Brown-Root-Jacobsen (RMK-BRJ). This firm was the predecessor of Brown and Root Services, today's principal Army battlefield contractor.²⁸ The 1990-1991 Gulf War also used civilian contractors extensively, either engaged directly by the Army or through Saudi Arabian host nation support. Private contractors in the Gulf focused primarily on high-technology equipment support and providing water and fresh food.

Controversies and Dilemmas

Despite America's lengthy history with civilian contractors operating in the battlespace, including the Army's extensive experience with LOGCAP, the practice remains controversial.²⁹ A number of issues complicate efforts to institutionalize contractors in the battlespace and in routine military operations.

Probably the chief issue from an operational standpoint is the need for unqualified vendor reliability. Contractors must keep their employees in theater and on the job when hostilities begin.³⁰ Indeed, they must be able to provide even more personnel as demands for support mount. Further, a parent company's subcontractors must be as dependable and steadfast as the primary contractor if operations are to continue unabated. If personnel shun dangerous work or insist on repatriation, the support system will break down. Because private companies are motivated by profit and are responsible primarily to their shareholders, financial losses might cause a company to terminate its involvement in a war zone.³¹ Contractors wishing to be relieved of their responsibilities can resign; soldiers cannot. Hence, primary contractors are only as trustworthy as their subcontractors.

During the Gulf War, one primary contractor, fearing missile attacks, withdrew all its personnel, alleging that concern for its employees outweighed the profit motive. Although this instance represents the exception and, in fact, was the only one documented during the Gulf War, DOD must recognize the potential for contractor "skedaddle." At a minimum, contractors in war zones must be afforded medical and life insurance and physical protection against all enemy threats. Reports abound about contractors not receiving gas masks, chemical gear and other protective equipment during the Gulf War and their insurance coverage becoming invalid following medical evacuation from the war zone. To reinforce confidence, DOD should expand incentive programs that will encourage contractors to volunteer. Included among such incentives could be special medical and insurance coverage, and universally available hazardous assignment bonuses.

Reliability issues are ultimately ones involving unity of purpose.³² Functional combat support presupposes an alignment of wartime intent and objective between DOD and its civilian contractors. The requisite overlap of purpose will occur only when civilian contractors are more systematically integrated into the military's peacetime operations. Such integration will bolster the mutual trust that is needed between the military and its contractors to withstand political or military crises. The armed services should establish long-term relationships with contractors that emphasize confidence and steadfastness. The long-term payoff will be more predictable performance during conflict, although the systems and means for assessing contractor wartime readiness are rudimentary at best. More careful monitoring of contractor preparedness in peacetime will further contribute to durable civilian-military relationships. Additional legal provisions specifying that contractors be held accountable to the armed services will enhance the military's confidence.

The second obstacle to institutionalizing contractors in the battlespace is the reluctance of commanders and DOD policy makers to contract logistics services to a civilian firm that is a sole-source provider. Lack of competition among service providers might adversely affect the level of service after the contract is signed and does little to encourage pricing efficiency by the vendor. If, however, a number of high-quality suppliers are available, DOD should be more comfortable with the quality of the service and the contract's price.³³ Competition for logistics services should prompt policy makers to select several civilian contractors.



Teamsters driving US Army fuel trucks near Colonia Dublan during the 1916 Mexican Punitive Expedition.

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A third difficulty is contractor vulnerability.³⁴ Contractor communications are seldom as sophisticated or secure as the military's and, thus, are more likely targets for attack and sabotage. If the enemy successfully neutralizes contractors and alternative suppliers are unavailable to theater commanders, mission accomplishment is degraded. The same often holds true for information-processing systems. Contractor support structures will require additional protection in some cases, and the Armed Forces will need contingency options to maintain supplies—military commanders might need alternative providers on short notice.

One of the initial steps in the logistics response to a crisis is surge support, which involves the ability of the existing logistics base to satisfy accelerated support requirements. Assessing potential capability before combat is complex, however. Even under peacetime contracts, determining civilian contractors' genuine surge capability is a challenge. Moreover, because civilian contractors emphasize

cost efficiency, firms often view reserve surge capability as inefficient excess.

How does one address this dilemma? Logistics support should be viewed as operating on two levels.³⁵ The first is the peacetime level of support that various contracts provide. The second level is surge support that exceeds peacetime levels and can be arranged through specialized contracting. Subsequent contract negotiation can require supplier maintenance of specific assets that satisfy the increased logistics requirements. To ensure this surge capacity, DOD should include these assets in various peacetime exercises and assessments. Contractors should become accustomed to operating alongside military forces during a crisis by participating in simulation exercises.³⁶ Developing mutual trust in realistic peacetime simulations permits the military and its contractors to anticipate each other's reactions under adverse circumstances. Involvement will invariably increase the cost of the program since suppliers will demand compensation for removing

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productive assets from service, but this compensation is likely to be less than the cost of retaining excess capacity within DOD.

Third-party logistics will continue to present legal and doctrinal problems. The tempo of change in warfare is outpacing service doctrine and eclipsing the international legal system. There are many critical questions that service doctrine fails to address such as legal issues associated with the status of contractors in the battlespace. In truth, some questions will simply go unanswered, and a lingering ambiguity will surround contractors' status in a war zone. Moreover, contractor personnel, in many cases, are subject to federal and host nation laws, the laws of war and status-of-forces agreements.³⁷ Service and joint doctrine regarding contractor status must continue to evolve. It must also incorporate contracting into doctrine as a component of force application and provide impetus for policy development in certain spheres. Growing incidences of contracted logistics support in the future makes it impossible to ignore these essential issues.

International law has not evolved in the area of contractor status and consequently has little to offer. International law does not recognize contractors as combatants and affords them little protection under the Geneva Accords, the Hague Convention or other international agreements, although during times of war, military employees fall under Common Article 3 of the Geneva Convention. Yet, contractor personnel in the battlespace are subject to enemy attack and capture, and are bound by obligations to United Nations human-rights conventions as agents of the government employing them. If armed for self-protection and wearing uniforms, contractor personnel could be mistaken for military personnel or regarded as espionage agents or terrorist mercenaries.

Slipping through the legal system occurs as well. Under current US law, civilian contractors do not fall under the Uniform Code of Military Justice (UCMJ) unless Congress declares a state of war.

Other penalties or censures must address improprieties, nonperformance or personal misconduct. Military contracts frequently specify that contractor personnel are to abide by military commanders' instructions and guidelines; however, control is largely indirect, and accountability is administrative.³⁸ The primary contractor usually has direct supervisory authority; military commanders cannot expect the same level of obedience from civilians as they would from troops. The UCMJ is the military's most fundamental enforcement instrument and, to some extent, must apply to contractors during operations. The question is, to what extent?

There is mounting concern about force protection. What legal obligation does DOD have to third parties? Should civilian contractors receive the same kind of physical protection in the battlespace as military logistics forces? A common contract clause stipulates that military commanders must provide physical security for contractor personnel, and contractors are reluctant to be responsible for their own security. Contracts seldom specify, however, that civilian personnel receive the same protection as military personnel, a significant legal loophole, especially in the complex management environment in which military commanders operate.

Contractor protection will, in some cases, attenuate the commander's ability to commit forces to support the unit's principal military mission, and commanders are loath to risk casualties for civilian support services, much less degrade mission accomplishment through troop diversion. Moreover, rear-area troops can be used to protect equipment, guard and hold territory, and stiffen combat units as casualties mount.³⁹ Contractors cannot fulfill such tasks, a harsh reality that planners must consider. Commanders should conduct risk assessments to ascertain the extent to which civilian contractor support is feasible and to gauge the additional measures necessary for force protection. These additional costs can be included in calculating whether civilians or soldiers should provide logistics support.

Managing Contracted Logistics

Managing civilian logistics support comprises two issues. The first is identifying those activities that are appropriate for privatization or civilian outsourcing. The second focuses on the administrative decisions and policies required to implement logistics outsourcing. The latter involves more complicated tasks, ranging from contract design to performance monitoring and process redesign. Both issues involve critical decisions that impact the military-civilian logistics interface.

Brigadier General Mahlon Gates of the 1st Logistical Support Command cuts the ribbon on the fourth Cam Ranh Bay pier built by the DeLong Corporation in Vietnam.



Because of low mobilization levels during the Vietnam War, military contractors again became indispensable. Given the lack of skilled labor in Vietnam, contracting organizations often hired US and third-country nationals, and by 1969, an estimated 52,000 non-Vietnamese contract personnel worked in Vietnam. Private contractors provided construction, base maintenance, fuel supply, water and ground transport services, and support for high-technology systems in operational zones.

Limitations on commanders and staff officers' time are inducing DOD to attend to those activities that are most central to its mission and customers. DOD is seeking to return to its core competencies. It must direct its resources toward remaining a world-class provider of warfighting competencies. Outsourcing to civilian contractors is vital for DOD to attain world-class performance in noncore or peripheral activities.⁴⁰ If these less central functions require using highly specialized assets, DOD will encounter difficulties contracting with outside vendors. Noncore activities using less specific assets remain the best candidates for civilian outsourcing, although the possibility of developing long-term relationships with DOD might encourage private firms to bid for contracts even if they require specialized skills and resources.

The primary rationale for outsourcing or privatizing components of military logistics support is to ob-

tain better value for the funds expended. The decision should not be driven solely by a desire to reduce direct procurement costs.⁴¹ Contracting logistics can give DOD access to highly sophisticated capabilities, accelerate process reengineering and facilitate strategic refocus. The decision to outsource a unit's logistics should be reflected in its criteria for source selection—supplier's experience, technological capabilities, financial strength, commitment to customer satisfaction, quality monitoring, willingness to provide performance warranties and a solid track record honoring the latter.

Contract design is a central feature of source selection. The contract establishes the nature of the relationship between the military purchaser and the civilian supplier. It must specify performance measures, conflict-resolution procedures, triggers for contract modification/termination and the distribution of savings from process improvement or new technology.

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If the contracted service is fairly standardized with little military specificity required, such as painting, then simple fixed-price contracts can suffice. However, if the support is more specific and entails substantial vendor investment, then a longer-term, more flexible contract is both opportune and advantageous. Combining clear communication channels with a well-designed contract can resolve difficulties before they evolve into crises. Careful source selection, judicious contract design, performance monitoring and open communication can address many of the concerns associated with losing organic military logistics support.

Academic literature on strategic alliances states that long-term partnerships can reduce costs and more effectively improve performance than short-term contracts geared to the lowest price.⁴² Large-volume purchasers, such as DOD, should be receptive to contractor recommendations regarding product design, process integration and continued improvement in product delivery. In brief, DOD should view suppliers of complex services as partners rather than arm's-length vendors. To maintain adequate incentive for the supplier to continue process improvement, the contractor should share the gains from any such changes. Long-term relationships can provide superior performance while serving as a functional substitute for organic capabilities. Such relationships encourage civilian investment in specialized assets that result in performance enhancements while preserving the financial incentives to maximize corporate value.

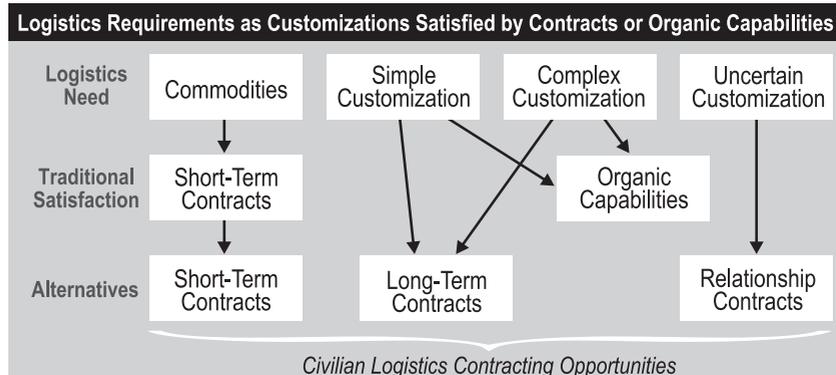
Military procurement practices are scarcely conducive to developing long-term relationships between military

users and civilian suppliers. The requirement for overly detailed requests for proposals, coupled with minimal input from potential suppliers, often results in the military's receiving lower-quality service. The current practice of excluding suppliers' past performance data encourages bidders to overstate their capabilities. It also provides a powerful disincentive for firms to invest in highly specific assets that would increase efficiency and raise the quality of services provided to the government. The requirement for full and open competition is difficult to reconcile with the long-term, highly integrated business-supplier relationships common in private industry. Suppliers expect rewards in the present and some promise of future returns. When DOD frequently shifts suppliers, it is likely to lose the loyalty of all industry suppliers.

A Logistics Outsourcing Model

We propose a new contracting model for military logistics to address using private contractors. Our model will determine how civilian contractors can act either in conjunction with or as a substitute for organic military logistics support. It illustrates opportunities for using civilian contractors through more creative contracting arrangements. This model views logistics needs as a kind of customization. The degree of customization would range from zero for basic, common services (laundry) to highly specialized (weapon systems). The model then describes which customized service could be contracted out and which could be satisfied by organic units.

Perhaps the least complex logistics need is procuring basic commodities such as food, fuel and medicines. These are usually uniform or standard goods or goods that require minimal military customization. Such items can be supplied by a simple, short-term contract. More complex than simple commodities are logistics needs requiring





Military and contractor personnel review the construction of helicopter pads at East Timor's Dili Airport. (Inset) A contract Mi-26 helicopter and C-130 Hercules parked at the airport.



Financial costs associated with the present approach to military logistics concern many observers and represent the chief quandary for decisionmakers. Because the volume of activity in a contractor's chosen area of logistics expertise is high, the contractor can achieve economies of scale in delivering particular goods and services. Economies of scale result in a lower total cost per unit which, in turn, allows contractors to offer lower prices than the armed services would in maintaining logistics capability across all areas.

simple customization—those requirements that cannot be purchased in the civilian market because a greater degree of product differentiation is necessary. Examples include specialty clothing, office supplies or building modifications. Our model shows that these needs can be met either by short-term contracts or internally.

Complex customization, although frequently involving only a matter of degree and sometimes simply of perception, typically necessitates an even broader scope of work; product delivery takes longer. Maintenance services and equipment/property leasing are examples of complex customization logistics needs. Our model indicates that long-term

civilian contracts are an alternative to the organic military capacity for these kinds of requirements. Finally, certain logistics support cannot be fully ascertained in advance because of technological uncertainty, project complexity or environmental unpredictability. For such types of logistics support, relational contracts can substitute for in-house capability. Relational contracts emphasize the terms of the relationship between customer and vendor rather than the specific terms of work and, hence, afford additional flexibility. These contracts may be subsequently renegotiated or modified as circumstances dictate. Weapon systems or a new computer network are examples of candidates for relational contracts.

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Addressing the Challenges

We believe that this model can direct the prudent use of civilian outsourcing and thereby address the many challenges facing military logisticians. Financial costs associated with the present approach to military logistics concern many observers and represent the chief quandary for decisionmakers. Because the volume of activity in a contractor's chosen area of logistics expertise is high, the contractor can achieve economies of scale in delivering particular goods and services. Economies of scale result in a lower total cost per unit which, in turn, allows contractors to offer lower prices than the armed services would in maintaining logistics capability across all areas. Also, efficient state-of-the-art technology and technical expertise obtained through product specialization produces further cost reductions. These cost savings represent dollars the armed services can reallocate to its core competencies and more mission-critical areas.

Contractors' pricing schedules can also be used to establish benchmark costs for other transactions a respective service might make in the future. Benchmarks are measurements that gauge the performance of a function or operation relative to others. "Best practices" benchmarks might be described as the process of finding and studying the best internal and external practices producing superior performance.⁴³ Benchmarking seeks superior performance by systematically searching for and using best practices and is valuable in assessing a facility's management efficiency or identifying areas suitable for an audit. Contractor pricing benchmarks also provide objective measures for policy makers or senior commanders against which to compare the cost of retaining a specific organic military capability. Emphasis should be placed on benchmarks as ongoing outreach activities.

Because civilian contractors limit the range of their activities, they can develop a set of well-defined and

highly specialized capabilities that will often be of higher quality than organic DOD capabilities. Salient among these enhanced capabilities are current technology and the trained staff to use this technology to its fullest. Contractors' ability to specialize in limited areas of logistics support provides the financial incentive for them to invest in state-of-the-art technology and to integrate that technology into their business operations. The contractor, therefore, can provide the supported unit with the latest logistics technology and the technicians to operate it.

Stiffening the Sinews

Rapid technological changes in logistics management and distribution will increase DOD's modernization costs. Because of its extensive logistics operations, DOD cannot afford the technology necessary to maintain a state-of-the-art logistics system. Acceleration of technological change and its accompanying costs will shift decisions to favor contracted logistics support. Focusing on organizational core competencies or increased emphasis on the armed services' warfighting mission will accelerate contracted civilian support.

Too frequently military leaders regard their organizations as machines that can be geared up and fine-tuned. This makes some sense when the organization, like a machine, does the same things again and again, but this practice is a fool's errand in the complex environment of 21st-century warfare. The US military must be able to change, adapt and solve problems.⁴⁴ The organization should not be regarded as a machine but as a brain that directs the body. If traditional military strategies were based on growing a bigger body with little regard for brainpower, strategies should slim down the body while growing the brain.

Although it does not address all critical logistics questions, our decisionmaking model can be used to assess the most efficient use of resources and to help determine the optimal combination of contractor support and organic DOD logistics capabilities. As the nature of 21st-century warfare emerges and service doctrine becomes more closely aligned with the RML, the military logistics community must develop new strategies to deal with the new realities. Our model contributes to that end by determining the possible mix between organic and outsourced logistics capabilities. Yet, it has been said that knowing the mechanics of war, not the principles of strategy, distinguishes good leaders from bad.⁴⁵

In addition to engendering significant cost reductions, contracted logistics properly incorporated

into military strategy acts as an effective force multiplier.⁴⁶ Contracted logistics affords the flexibility to increase or decrease force support rapidly.⁴⁷ It can reinforce existing military capabilities and furnish a multiplicity of supplies, and if necessary, alternative supply sources, while providing specializations and capabilities the military services do not have. Private companies are quick to adapt to complexity, as many 21st-century wars will be. With the continuing development of weapon sys-

tem capabilities, US military forces will show their teeth in terms of firepower to which contractors will contribute substantially. Crucial from the onset, though, is the need to establish the right mixture of force structure and contractor support in specific situations and under particular circumstances. In an era of more lethal weaponry and sophisticated information technology, the logistics footprint involves not merely mass and volume but balance and blend as well. **MR**

NOTES

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