
PERSPECTIVES

Applying “Supply Chain Management” To FMS Logistics Requirements

By

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The sale of weapon systems to friendly foreign governments is an instrument of U.S. foreign policy. It helps contribute to regional stability and provides a means for U.S. forces to conduct joint operations with foreign countries. Proceeds from the sale of U.S. weapon system to foreign customers over the past five years have averaged approximately \$8.8B annually. That’s down sharply from post-Gulf War, but still a significant program. The money also helps decrease U.S. government weapon system unit cost and provides hundreds of jobs across the U.S.

As depicted in Figure 1, weapon system sales are conducted through the government-managed foreign military sales (FMS) program and through direct commercial contracts.

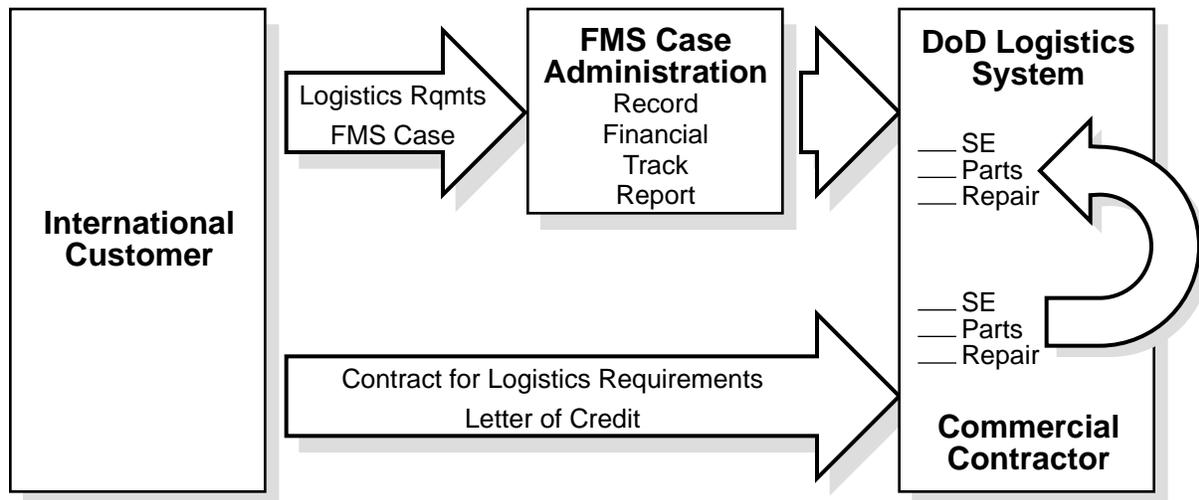


Figure 1 - Weapon System Sales

International customers may select either FMS (U.S. government contracts with industry on behalf of the FMS customer) or DCS (customers buy directly from industry) to purchase logistics support for new weapon systems as well as follow-on logistics support. The international customers base their FMS/DCS selection on a myriad of national, economic and contractual factors. U.S. government policy requires that some international customers only use the FMS system for buying selected weapon systems as well as the follow-on logistics support. For this reason, and to provide the international customer a viable option other than negotiating direct

commercial contracts themselves, the FMS system for delivery of logistics support must remain cost effective and responsive.

Logistics is big business. A national FMS case or contract value for the purchase of one 12-plane squadron of front line fighter aircraft (including a two-year initial support package) is estimated at \$500M. Logistics costs (e.g. engines, parts, support equipment, publications, training, etc.) would be approximately 35 percent of the total cost. However, measured over the weapon system life cycle, logistics cost (i.e. follow-on support such as replenishment spares and repair) increases to 60-70 percent of the original weapon system cost. Thus, the cost of logistics is a major factor when international customers select a new weapon system.

It has been widely reported in the *Defense News* and other periodicals that international customers are opting out of the FMS system and buying weapon systems under direct commercial contracts. The articles cite among, other issues, excessive cost, non-responsiveness, and U.S. government resistance to partnering with the international customer as three of the international customer's major concerns.

As a result of the outside pressure, groups consisting of FMS experts from industry and government are now trying to reinvent the Navy FMS process to make it more efficient and to reduce the cost of delivered hardware and services. The new ideas and processes reported out so far (e.g. industry/U.S. government working in consort to market weapon systems) will improve the FMS administrative process. But more new ideas and improvements are needed to address the essence of the criticism that the FMS system delivers products and services less efficiently and at higher cost than under a direct commercial contract

As indicated above, logistics costs play a major role in weapon system selection. The purpose of this paper is to suggest a new paradigm for delivering FMS logistics products and services under both initial and follow-on FMS cases. It proposes to reinvent the FMS supply chain by capitalizing on the best of government and commercial logistics to deliver logistics hardware and services more efficiently and less expensively than does the current FMS system. It does not address the delivery of the weapon system itself (e.g. aircraft, ship, and missile).

Some effortless changes are possible. Business-like ideas do not all require increased resources to implement. Some such as the following simply require policy/process change or refinement to achieve a business process improvement in support of international customers:

- Selling excess government-owned parts and equipment in lieu of disposal is smart business. Section 2270 of the AECA permits commercial contractors that have a commercial export license for logistics support of friendly foreign customers to buy excess spare parts/equipment and repair services, from the U.S. government on a negotiated basis. Section 603 of the *Security Assistance Management Manual* (SAMM) delegates approval authority for these sales to the implementing agency (IA) and authorizes the IA to "redelegate the authority not below the level of commanding officer or head of a contracting agency of the IA responsible for acquisition of the end item". Thus, an agency such as an inventory control point (ICP) that owns the excess material, might argue that they are not legally authorized to sell excess material or services to a commercial contractor because: (1) authority has not been delegated to them and (2) they are not responsible for acquisition of the end item. The result is lost sales to the U.S. government because authority and procedures do not exist to permit these transactions to occur quickly and

efficiently. Contractors therefore find workarounds to solve their support problem or international customer's cancel the support contract. In either case, the U.S. government or industry loses.

- Process Improvement - DSCA should expand the authority for selling excess government-owned equipment to ICPs and direct the Services/DLA to (1) provide excess inventory balances to industry and (2) create sales procedures that provide for quick and easy sales transactions. Implementing Agencies (e.g. Navy IPO) should redelegate authority as required to ICPs.

- Weapon system related parts issued from DoD-owned stock to fill FMS requisitions are typically surcharged 25-40 percent above the vendor price to recover supply system overhead. Additional FMS surcharges are additive to supply system price delivered price. Vendors are keenly aware of cumulative impact of supply system/FMS surcharges on the items they sell. Thus a vendor may be willing to deliver an item to international customers less expensively than the government can deliver it.

- Process Improvement - ILCOs use existing "data warehouse" capability to post alternative vendor pricing. ILCOs compare government standard prices - including all surcharges/fees to commercial alternatives and select the best offer based on decision rules established by the FMS customer. DSAMS the future FMS logistics/financial system now under development consider this hybrid approach as a reinvention initiative.

- Prime contractor and government buyers agree that buying selected spares (i.e. high cost/long-lead) concurrent with "production installs" (e.g. a radar system installed on an aircraft) significantly reduces item cost. For concurrent buys to occur under an FMS case the FMS customer must approve and fund the spares when the LOA is signed and the "production install" buying process begins. Many U.S. government and international program managers do not readily understand that requirement. Concurrent buying by government agencies is further complicated in that the weapon system (i.e. an aircraft) and spare parts are typically bought by separate contracting agencies making coordination difficult. As a result, savings opportunities are lost. Coordinated buying is much less of a problem under DCS buys. But some would argue that potential savings are often eroded by the prime contractor markup on spares. In my view, competitiveness of U.S. weapon systems in the international market place should drive whether the government or industry delivers concurrent spares.

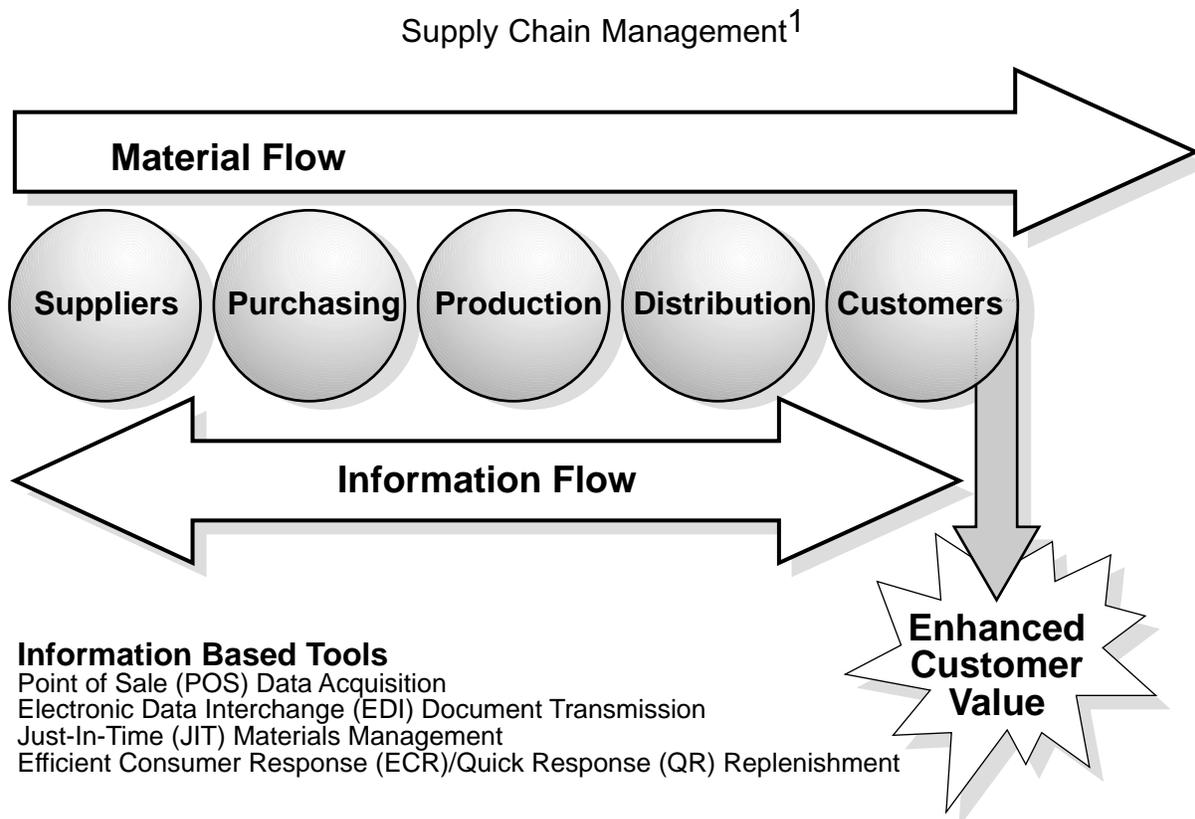
- Process Improvement - Services should partner with prime contractor to (1) educate the international customer on the importance of buying spares concurrent with production installs and (2) jointly brief potential customers on the best contract vehicle to maximize concurrent buys, including the bundling of repairable and related consumables, regardless of DoD inventory management responsibility.

- It is DoD policy to provide specific contract information (e.g. prices paid, awardees, etc.) to the general public after they award contracts for the procurement and repair of stock numbered items. This information is relied on by industry to keep abreast of what the government bought and how much the government paid for parts and repair services. It significantly helps increase competition. However, contract information is not

made available for the thousands of non-stock numbered item buys, many of which include contracts in support of FMS customers.

- Process Improvement - Release non-stock numbered contract information to the general public.

Commercial Supply Chain Management Principles. The commercial marketplace, and the U.S. government, are undergoing dramatic improvements in the delivery of products and services through productivity and cost reduction initiatives keyed to a new strategic focus called “Supply Chain Management”. The principle theme of supply chain management is that organizations must act in concert with their suppliers and customers. Synchronizing across the “chain” is imperative if enterprises are to be competitive in a global economy. The following illustration depicts the concept of supply chain management in a commercial environment.



¹www.i-trade.com/catalog/tpusa/0000089/impex18.htm

FMS Supply Chain - When adapting the theory of commercial supply chain management to the FMS model, the government must reinvent the entire process if it is going to realize the maximum benefits. But “throwing the baby out with the bath water” would be a serious mistake, because there are many aspects of the current government system that serve FMS customers well. They include the following:

- A mature, worldwide protocol that interfaces seamlessly with FMS customers,
- Quality products delivered through an existing robust contracting infrastructure,

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- Government shelf stock that can reduce pipeline costs,
 - Access to ongoing U.S. government product updates on common items, and
 - A surge capability in the event of a national emergency.

Reinventing the FMS logistics system will require that FMS managers redefine their ombudsman role on behalf of their FMS customers. No longer will it be acceptable if the DoD logistics system provides support comparable to what is provided to the U.S. domestic customers. “Spot” buying if material is not immediately available for issue and providing actual repair prices are two examples of procedural problems that the DoD logistics system has problems accommodating. Unless the DoD logistics system is unable to satisfy FMS customer unique demands, the DoD logistics system in the future must be viewed simply as an alternative to filling FMS requirements. FMS managers must be empowered to collaborate with industry to adopt business-like logistics solutions on behalf of the international community. With awareness of potential for increased sales perhaps DoD logistics managers would tailor domestic logistic systems/pricing to attract FMS business.

Some Ideas For Consideration

Phased Initial Support - Despite an FMS process that includes formal provisions for tailoring logistics support to customers needs, international customers consistently complain that the FMS process does not permit them to be true partners with the U.S. government. The residual inventory issue is a case in point. At the outset of an FMS case, Navy FMS customers are actively involved in an initial in-country site survey when hundreds of critical maintenance strategy decisions are made that have a profound effect on future life cycle costs. However, FMS customers often acquiesce to government recommendations due to language difficulties and a lack of experience with a new weapon system. At a later date, with the benefit of experience, they then resent decisions made at the site survey that caused them to buy excess inventory. Compounding the problem is U.S. law that makes it difficult for FMS customers to sell the residual inventory to other users, including the U.S. government. The U.S. Air Force recognized this long-standing problem and recently initiated the Worldwide Warehouse Redistribution System (WWRS) for the sale of excess material and equipment owned by FMS customers to other FMS customers. The U.S. Navy is about to partner with the U.S. Air Force and use their WWRS process for Navy FMS customers. While the WWRS ameliorates the problem somewhat for U.S. Air Force/U.S. Navy FMS customers, the reasons for generating the excess inventory - i.e. bad decision making at the outset - still remain.

Similar problems of language and inexperience exist when weapon systems are purchased under a direct commercial contract. But international customers may make the disposal of excess inventory a provision of sale in a commercial contract and evaluate direct commercial offers on the basis of their commitment to “buy back” inventory if excesses generate. The “buy back” provision is as difficult a problem for the commercial contractor as it is for the government, but they attack the problem by minimizing their risk through a phased support approach to weapon system introduction.

Regulatory restrictions make it difficult for the U.S. government to offer a similar “buy back” provision in an LOA. But attacking the problem is entirely possible by also adopting a phased support strategy in collaboration with industry. Collaboration involves working together across organizational boundaries to optimize initial support requirements and minimize the risk of a customer limiting their initial support investment. An optimized follow-on logistics support

system is what has been called the “value chain.” The “value chain” has been defined as the convergence of the demand chain (i.e. the customer’s requirements) and the supply chain (i.e. the network that generates and delivers the products and services that fulfill the demand chain requirements). The value chain includes a heavy reliance on information technology and rapid transportation to keep the supply chain in sync. But the return on investment (ROI) occurs up front, i.e., reduced initial support costs such that the savings are available to fund any incremental costs for information technology and transportation. The principles detailed below form the foundation for an alternative FMS “value chain” to support a new weapon system at Initial Operating Capability (IOC), i.e., when the weapon system begins operations in country. It would be priced in the LOA as an alternative to the current process of providing “full support” at IOC.

- Full O-level capability in-country at IOC
- Limited I-level capability at IOC, with a commitment to full I-level on a phased basis as determined by the FMS customer
- Commitment to selected depot capability over time
- Limited spares package at IOC, coupled with an initial spare parts warranty and an aggressive Repair of Repairable (ROR) program
- U.S. government pre-position selected spares in country for direct exchange with customer
- U.S. government representative in country to coordinate exchange, warranty and ROR programs
- Robust electronic data exchange via the internet
- U.S. government or contractor technical support as required
- Access to contractor/government-owned parts failure.

Phasing in logistics support for major new weapon systems is really not that revolutionary in that it’s how the DoD introduces new weapon systems to the domestic fleet. But it’s revolutionary to FMS managers.

Better and More Timely Logistics Data - International customers are becoming very sophisticated in evaluating cost early in the process of selecting a new weapon system. For example, many customers require potential suppliers to provide Mean Time Between Failure (MTBF) data so that they can use the data in their own acquisition models to trade-off cost versus readiness and predict life cycle cost. Other data includes sub-system configuration of maintenance significant items, major items of support equipment, current item cost, etc. Despite operational superiority, contending weapon systems may be eliminated from competition by customer country finance experts if they are not provided accurate and/or timely data to use with their acquisition models. The U.S. government has difficulty responding to requests for data from potential customers due to lengthy releasability reviews and an inability to locate current data in a timely manner.

A cornerstone of effective supply chain management is the availability of accurate and current information. Prime contractors understand this principle and provide accurate data when requested under a direct commercial contract within the authority of their export license. It is in their interest to provide the data to a potential international customer regardless of whether the new weapon system is bought through an FMS case or through a direct commercial sale. However, if international customer's plan to buy a weapon system under an FMS case, the contractor will not provide company-owned data directly to a potential international customer without a request from the U.S. government to do so. Moreover, there have been times when government personnel declined to rely on contractor data, preferring instead to pass less current government-owned data to potential FMS customers. Data disconnects potentially cause lost FMS sales and/or result in bad logistics decision making. Government and industry must collaborate on new weapon sales and decide up front what data will be needed and whose database is most current.

As indicated previously, the purpose of this paper is to suggest a new paradigm for delivering FMS logistics products and services under both initial and follow-on FMS cases. Some of the ideas put forth above such as selling excess items to commercial contractors, increasing the buying spares concurrent with production, and publishing non-standard contract prices are relatively easy to implement; others such as phased support may require further study.

About the Author

Steve House is currently the Director International Programs, Planning and Logistics for Information Spectrum, Inc. which is the prime support contractor for the Naval Air Systems Command FMS Logistics Directorate. He is a retired Navy Supply Corps Captain with extensive acquisition logistics and FMS experience while in the Navy. He also has lived and worked overseas a total of thirteen years, including business and financial manager of the Navy's commercial component repair program in the Western Pacific and Commanding Officer of the Navy's largest overseas supply depot in Subic Bay, Philippines.