

Performance-based logistics (PBL) prepares us for what waits on the private, service side of the supply chain

Part I — Logistics and Supply Chain Management

The public sector is decidedly varied in character, governance, and size. Its boundaries have changed in recent years and will indubitably change again as a progressively stronger consumer culture, rising living standards, and a more diverse society lead to greater expectations of responsiveness, reliability, and accessibility. While the pressure to collaborate across different organizations remains unchanged, pressure to adapt and innovate has never been higher for the public sector. The political context, budget apportionment and allocation, scarce market competition, and the ethos of public service clearly distinguish the public sector from all others. Not surprisingly, logistics leaders, more than ever, need to reaffirm workplace commitment to the creation of public value. In short, this series takes the reader through a brief history of logistics and supply chain management, revisits the give and take nature of performance-based acquisition, introduces them to a number of PBL developments, and addresses the impact of change management on logistics leaders around the corner ... and around the globe. It should prove to be a fascinating journey.

Introduction

Value Creation: The term *value creation* typically refers to processes that produce benefit for your customers and for your organization. They are the processes most important to “running your business”—those that involve the majority of your employees and that generate your products, services, and positive business results for your stakeholders

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What is value? And what does “value-added” mean? In the private sector, value is the benefit received from a product or service in exchange for its cost. Value-added typically describes a specific step or activity that contributes something a customer cares about. Not surprisingly, the public sector tends to define “value” or “value-added” in business terms as a product or service whose benefits outweigh their costs to the customer. The difference rests in how we measure public “costs.” Not everyone, after all, derives the same pleasure from products and services purchased with tax dollars;

indeed, some products and/or services are highly valued by one while harshly criticized by another. Mark Moore, a professor at Harvard's Kennedy School of Government, and author of *Creating Public Value* (Harvard University Press, 1995), contends public value is created in two different ways, directed at two different audiences:

1. Public value is created when government agencies use the money and authority given to them to produce things that benefit individuals ... as they perceive it.
2. Public value is created when government agencies meet the expectations of citizens and elected officials, accountable for the way they operate; that is, they are efficient, fair, open, and accountable.

Clearly, this two-part definition does more than simply separate the two types of audiences that judge public agencies; it acknowledges that "value" is defined by those observing/benefiting from the agency, not by the agency itself. Moreover, value creation is at its best when the public sector demonstrates its willingness and ability to execute two dominant tasks: 1) deliver things that individuals want, the way they want them, and 2) operate in a way that meets public expectations and supports public values. In the past, as Geary (2006) suggests, the government dictated *how* private companies handled support and paid for the service on a cost-plus basis. Perhaps unintentionally, this practice presented almost no incentive for contractors to improve their processes or overall system reliability and performance. What's more, it failed to hold contractors accountable for the one thing that matters: mission performance. This tit-for-tat world where contractors were paid for meeting the contract's transactional requirements is fleeting. And performance-based logistics (PBL) is leading the charge to replace it.

Under PBL, the government stipulates desired outcomes related to the performance of the fielded system and compensates the contractor accordingly, generally creating a win-win situation in the process. For the contractor, it is an opportunity to focus on system performance expectations and exercise greater flexibility in deciding how support is provided commensurate to the requisite fundamental processes needed to meet the requirements, ensure stable flow due, in large part, to long-term contracts, and increase revenue by encouraging—and rewarding—contractor investment in continuous support process improvements. Performance based logistics, according to Hurst (2006), is a viable strategy that inherently employs industry best practices to achieve program cost, schedule, *and performance* improvements [emphasis added]. PBL relies on the contractor to figure out *how* to put the supporting pieces

together to achieve the goals. For the government, it is a chance to obtain guaranteed availability improvements while decreasing costs and logistics footprint through public/private partnerships for complete program support.

According to *Performance Based Logistics: A Program Manager's Product Support Guide* (DAU, 2005), PBL is

the preferred Department of Defense (DoD) product support strategy to improve weapons system readiness by procuring performance, which capitalizes on integrated logistics chains and public/private partnerships. The cornerstone of PBL is the purchase of weapons system sustainment as an affordable, integrated package based on output measures such as weapons system availability, rather than input measures, such as parts and technical services.

The 2001 *Quadrennial Defense Review (QDR)* and the *Defense Planning Guidance (DPG)* directed the application of PBL to new and legacy weapons systems.

Additionally, PBL implementation is mandated by DoD Directive 5000.1, *The Defense Acquisition System*. As Vitasek, Geary, Cothran, and Rutner point out in the *Supply Chain Strategy* (2006), performance-based logistics is, in essence, "a bumper-to-bumper warranty for the supply chain." Said differently, it is a total life cycle support strategy that links acquisition and supply chain management so as to enable an organization to look beyond the immediate customer to align each link in the supply chain with the very real needs of the ultimate user. Agencies and organizations that implement PBL often can expect increased availability and reliability supported by a smaller and more responsive logistics footprint, typically at a reduced cost.

This series resists the temptation to be an meticulous study of PBL; instead, its purpose is to introduce the key tenets of PBL: e.g., accountability, collaboration, performance measurement, risk management, a life-cycle contracting strategy that matures as the program matures, investment incentives that encourage stability and improvement, and the emergence of flexible "Statement of Objectives" as a guidepost. Because PBL is not a "one size fits all" application, each organization must tailor their approach based on system characteristics and unique capabilities. To fully understand the relevant issues associated with PBL, several related areas of consequence are encompassed herein. To begin, an historical analysis of logistics is followed by an overview of Supply Chain Management (SCM), with particular emphasis given to its effect on the emergence of performance based contracting. This overview supports the rise and acceptance of PBL as a natural extension of SCM. As this series draws to a

close, considerable attention is devoted to leadership's role as change agents in the quest for continued improvements in both the public and private logistics sectors.

So, what's this thing we call logistics? It depends. Logistics is in the eye of the beholder; there are countless definitions of logistics and, for that matter, supply chain management in circulation from the very simple to complex. The American Heritage Dictionary (2007) gets right to the point: Logistics is "the management of the details of an operation;" it also suggests logistics is strongly correlated to the Department of Defense, defining logistics as "the aspect of military operations that deals with the procurement, distribution, maintenance, and replacement of materiel and personnel." AMR Research, noted as "the No. 1 research firm focused on the intersection of business processes with value chain and enterprise technologies," takes a narrower view suggesting logistics is simply "the management of inventory in motion or at rest." According to the Council of Supply Chain Management Professionals (formerly, the Council of Logistics Management), logistics is "that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customers' requirements." Irrespective of point of view, the term has been around a long time, circa 1861 (Merriam-Webster, 2007). Its etymology hails from French *logistique* art of calculating, logic (perhaps influenced by *loger*, to *quarter*), from Greek *logistikē* art of calculating, from feminine of *logistikos* of calculation, from *logizein* to calculate, from *logos* reason, and from Medieval Latin *logisticus*, of calculation; hence, we may derive the essence of logistics from reasoned calculation.

lo•gis•tics (lŏ-jī's tīks, lə-) (n.pl):

LOGISTICS MANAGEMENT IS "THAT PART OF THE SUPPLY CHAIN MANAGEMENT THAT PLANS, IMPLEMENTS, AND CONTROLS THE EFFICIENT, EFFECTIVE FORWARD AND REVERSE FLOW AND STORAGE OF GOODS, SERVICES, AND RELATED INFORMATION BETWEEN THE POINT OF ORIGIN AND THE POINT OF CONSUMPTION IN ORDER TO MEET CUSTOMERS' REQUIREMENTS."

— Council of Supply Chain Management Professionals

Balancing cost, effectiveness, and risks may be one of the greatest challenges confronting contemporary logistics managers. Coyle (2002) reminds us logistics is a critical part of supply chain management, adding place and time value to products. Successful logistics managers are obliged to rely on sound, objective analysis and a little creative exploration of options if they are to rise to the occasion. Complicating successful analysis is the realization boundaries and relationships abound in the

logistics realm. Complications notwithstanding, the primary focus of logistics remains the optimization of service delivery to customers by managing a myriad of complex trade-offs among a plethora of activities. The Council of Supply Chain Management Professionals (CSCMP) emphasizes logistics management activities cover a wide expanse, typically including “inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning, and management of third-party logistics services providers.” To varying degrees, the CSCMP continues, “logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. [Moreover], it is involved in all levels of planning and execution—strategic, operational, and tactical.”

Typically, logistics managers busy themselves with the coordination and integration of activities with other functions including marketing, sales, manufacturing, finance, and information technology. In familiar terms, the result of this integration effort often is expressed in more comfortable terms with familiar surroundings: for example,

- **Acquisition Logistics** (systematically identifying, defining, designing, developing, producing, acquiring, delivering, installing, implementing, and upgrading logistics support capability to materially sustain a product throughout its operational life)
- **Distribution, or Transportation Logistics** (the concept of viewing business processes of sales forecasting, purchasing, manufacturing, inventorying, shipping, and receiving as a single system necessary for effectively scheduling, optimizing, and managing movement of products and services—inventory in motion or at rest)
- **Military Logistics** (the processes, procedures, and capabilities needed to deploy and sustain military units and weapon systems in military theaters of operations)
- **Consumer Logistics**, also known as **Operational Logistics** (that part of logistics concerning reception of the initial product, storage, transport, maintenance (including repair and serviceability), operation, and disposal of materiel)
- **Industrial Logistics** (procurement, material flow, inventories, warehousing, packaging, transportation, and customer service)

- **Multinational Logistics** (the different means to logistically support operations other than purely national, such as multinational integrated logistic support, role specialization support, and lead nation support)

If logistics is not a supply chain, what are the key differences? Well, it depends. Supply chain is a term that has come into vogue in the last several years. Prior to that, people used the term logistics. However, logistics management tends to have a more limited application – typically referring to what goes on between an organization and its direct suppliers and/or customers. Conversely, supply chain management generally extends much further back in the chain of suppliers and as far forward as the end user – who may not be your customer. With that said, the scope and relationship of logistics and supply chains are subject to wide variations of interpretation as business concepts. Many regard logistics as a sophisticated term for trucks and warehouses; others interpret supply chain to mean purchasing and procurement. Some use the terms interchangeably. Irrespective of perspective, logistics and supply chain functions are not entirely discrete; they are certain to overlap. Just how much so is a matter of interpretation. The minority view holds that logistics is the overall strategic glue that crosses multiple functions, including demand chains and supply chains, physical flows, fiscal flows, information flows, and the systems that support them. The more common approach holds the notion logistics is a sub-set of supply chain management involved at various stages of a value chain: for example, from supplier to plants, from plants to distribution centers, from distribution centers to retailers, from retailers to consumers, or any of these combinations.

Peter Drucker, in his seminal work, *The Practice of Management* (1954), wisely asserted business success (and even the very definition of a business) is expressly determined by customers. Drucker's key lesson is for companies to see the whole business from the customers' point of view or, in his terms, the outside in. Drucker specifically advocates achieving and maintaining an outside-in perspective as the path to success. Supply chains, in ways logistics never can approach, help us do just that.

Supply chains, as the Council of Supply Chain Management Professionals (2007) aptly suggests,

encompass the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners,

which can be suppliers, intermediaries, third-party service providers, and customers.

The supply chain is made up of all the manufacturers, suppliers, and customers who provide the commodities that satisfy a particular need. It includes production, storage, and distribution activities that procure materials, transform the materials into intermediate and finished products, and distribute the finished products to the customer.

Common supply chain performance areas

Products and services	Sales
Cost	Responsiveness
Customer service	Quality
Delivery	Cycle times
Assets utilized	Warehousing

Supply chains exist in service and manufacturing industries; however, the complexity and organization of supply chains vary immensely from industry to industry and from organization to

organization. In practice, supply chains have multiple products with the potential of many shared components, facilities, and capacities.

Supply chains are comprised of any number of sub-systems required to allow a business effectively manage information, product, service, and cash flows up and down the value stream from their customers' customer to their suppliers' supplier. The two most basic types of supply chain relationships are "vertical" (e.g., buyer-seller) and "horizontal" (e.g., parallel or cooperating) (Coyle, 2002). Vertical integration is the degree to which a firm owns its upstream suppliers and its downstream buyers. Horizontal integration is a supply chain strategy used to acquire business activities at the same level of the value chain with an expressed interest in gaining economies of scale, synergy, and reduced competition, among others. These relationships may span from transactional to relational, and often take the form of vendor, partner, and strategic alliances (Coyle, 2002).

Today's information-driven supply chains are strategic assets that support innovative enabling organizations to reduce inventory, add product value, extend resources, accelerate time to market, and retain customers.

— Integrated Supply Chain Management

Supply chain processes characteristically are customer-focused, measured, and monitored in an environment of excellence, teamwork, and continuous improvement. Well-orchestrated supply chains (as demonstrated by the masters of SCM—Dell, Wal-Mart, and Toyota, for example) deliver value on time, in the right quantity, and with the

highest level of quality and reliability built in at the lowest cost. The results speak for themselves: satisfied customers, profitability, and the capability to fund continuous innovation and capital investment for even more value. Strong supply chain links—and linkages—are important; to maximize effectiveness, each link needs to operate with a high level of excellence so as not to cause problems for the rest of the chain. No entity wants to become the weakest link in the supply chain. One last point: there exist two ends for every chain. The supply chain isn't just about suppliers; real value is defined by the customers' customer on the other end.

Integrated activities as complex as a supply chain must require constant monitoring. What process helps with such a fundamental task? Supply chain management is a great first step. The goals of SCM are to optimize production, decrease manufacturing time, minimize inventory, streamline order fulfillment, and reduce cost. Converting raw material to useful products that favorably respond to consumer demand requires all of the integration effort a firm typically can muster; supply chain management is a critical business function that largely impacts most any organization that defines success by the value delivered day in and day out through direct linkages to their customer and their customers' customer. At its most fundamental level, supply chain management is an integrated approach for planning, sourcing, maintaining, and delivering products. Distribution, inventory, transportation, accounting, general management, and problem-solving are just a few of the requisite activities needed to ensure success. Other relevant activities may include marketing, operations research, procurement, logistics management, and strategic sourcing. Each activity can represent a link in the supply chain. As public demand for cheaper, newer products drives the global economy forward, competition in supply chain management increases; the more effectively a company can stock shelves and enter new markets, the more likely it is to succeed.

supply chain management
(sə'plī 'chān 'man-ij-mənt):
**Delivering the right product
to the right place at the right
time in the right condition at
the right price.**

While the supply chain and SCM appear very similar on the surface, the most notable difference is that SCM is a process that integrates and synchronizes the supply chain (the stream of processes of moving goods from the customer order through the raw materials stage, supply, production, and distribution of products to the customer (RCG, 1999)) to meet an

organization's goals and objectives. In essence, supply chain management integrates supply and demand streams within and across companies. The boundaries and relationships adopted by the Council of Supply Chain Management Professionals (2007) stipulate supply chain management is “an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model.” The SCM function includes all of the logistics management activities noted previously, as well as manufacturing operations. Moreover, SCM “drives coordination of processes and activities with and across marketing, sales, product design, finance, and information technology” (CSCMP, 2007). Contemporary research suggests SCM goes further than the standard definitions imply, transcending firms, functions, and business processes. As such, SCM is far more than a simple naming convention; such breadth positions SCM as a complete business integration framework covering all functions operating over extended networks.

Supply chain management “is a proven business strategy that has gained wide acceptance in recent years due to increasing customer demands for quality, delivery, and speed” (ISCM, 2004). Not to be deterred, the Integrated Supply Chain Management concept paper (2004) indicates “new and radical ways of communicating, coupled with cost reduction and more interdependent supplier, provider, and customer relationships, have enhanced supply chain approaches.” Each link in the supply chain presents yet another opportunity to save money, to extend longevity, and to enhance the effectiveness of goods and services.

What are some of the benefits of supply chain management? Far too many to name here; however, some of the more prevalent benefits include (ISCM, 2004):

What value should a supply chain deliver?

“Delight the customer”

- Perfect orders
- Very short O-T-D cycle time
- Tailored supply chain systems
- Easy to do business with

Minimize asset base

- Facility consolidation and cross-docking
- Replace inventory with information
- Greater use of third parties

Understand true logistics costs

- Activity based costing
- Net landed cost
- External partner linkage

Enable and Exploit Information

Technology

- Common applications
- Decision support tools
- Common data
- E-Commerce

Key Organizational Processes

- Product Realization
- Order Fulfillment
- Order Capture
- Supplier Relationships
- Customer Relationships

Shareholder Measurements

- Inventory Turns
- Asset Utilization
- Operating Costs
- Customer Satisfaction
- Asset Protection

Customer Measurements

- Product Availability
- On-Time Performance
- Responsiveness
- Quality
- Flexibility
- Speed
- Consistency

- Quicker customer response and fulfillment rates
- Greater productivity at lower costs
- Reduced inventory throughout the chain
- Improved forecasting precision
- Fewer suppliers and shorter planning cycles
- Improved quality and products that are more technologically advanced
- Enhanced inter-operational communications and cooperation
- Shortened repair times and enhanced equipment readiness
- More reliable financial information

The real value of supply chain management always begins with the customer.

Customers demand the best of all worlds. We have an insatiable appetite for shorter times to market for new products, lower stock levels, obsolescence and cash commitments, and lower unit costs of purchasing and manufacturing (Braithwaite, 2002). We also possess an uncompromising desire for ever-increasing variety and choice, wider distribution, and increased customer and market responsiveness. The import of supply chain management cannot be overstated; it rests in its ability to help organizations discover favorable solutions for these seemingly contradictory goals.

What can SCM do for my organization? A number of ideas come to mind. To begin, supply chain management can help ensure your organization's customers get exactly what they ordered, when they wanted it, in the right quantity, in the right condition, and at the right price. Supply chain management also can help your organization become more cost effective while reducing lead times. In turn, your organization may be able to offer its customers more competitive prices and even shorter lead times. From that vantage point, the sky's the limit—new business is just around the corner. Offering a more technical perspective, supply chain management can help your organization:

- Improve the accuracy of its demand and supply planning activities
- Achieve better visibility, collaboration, and control across its supplier networks
- Increase the speed and reduce the costs of its order management
- Tap into advanced techniques for inventory and warehouse management
- Manage supplier and procurement activities for reduced spend and increased performance
- Improve the efficiency of its inbound and outbound logistics
- Enhance its ability to manage diverse inventory and material movements

- Evaluate new strategies for lean manufacturing and Six Sigma
- Optimize its global activities

Part II of this installment introduces the reader to the performance relationship shared between and among contracting and logistics. Primary emphasis is focused on performance-based contracting/acquisition. Part III is devoted to a review of performance-based logistics as a viable strategy that inherently employs industry best practices to achieve program cost, schedule, and performance improvements. This series closes with an eye on leadership's role as change agents in the quest for continued improvements in both the public and private logistics sectors answering one of the most important questions of this series: How do leaders become a catalyst for change as their agencies move forward with the implementation of PBL?

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