TMS
Transportation Management Systems & Supply Chain Sustainability
Introduction

Today, more than ever, transportation executives are focused on driving efficiencies within their supply chains. According to the Council of Supply Chain Management Professionals (CSCMP), transportation costs accounted for 4.7 percent of sales in 2008. Total logistics costs including carrying costs, warehousing and administration were 9.3 percent of sales for the average U.S. company in 2008. Beginning in early 2008, shippers sought rate reductions from transportation suppliers in an over-capacity marketplace. Carriers from parcel, truckload and steamship lines have been discounting rates to maintain market share. While these market pressures have yielded substantial rate decreases, many of these rate concessions have left providers operating with negative margins. In many cases, the rate decreases have been so steep that carriers would have been operating at a loss even during more robust economic conditions. Given these circumstances, it could be argued that all of the efforts made negotiating freight rates will have to be duplicated on the back side of the recession when transportation costs increase by double digits – a potentially net zero cost effect with no real sustainable options to drive cost out of the supply chain and address real inefficiencies. History has shown that most cost exposures are exchanged back and forth between the customer and the transportation providers based on the current market dynamics.

Advantages

One of the most effective measures for reducing costs and exposing supply chain inefficiencies is the use of Transportation Management Systems (TMS). TMS processes and technology should be the foundation of supply chain success. These platforms are typically designed, modeled and implemented on long-term savings rather than immediate cost avoidance. This inherent characteristic adds stability, reliability and transportation process cost controls. Key components of a successful TMS solution include connectivity, optimization, transparency and collaboration. A successful TMS solution is one that accounts for all of the supply chain stakeholders and makes decisions based on specific constraints or desired outcomes. These decisions need to be supported by leading-edge
technology, experienced professionals and an extensive global
network. The results need to be focused on cost reductions and
service improvement. Reduced transportation expenditures are
by far the largest benefit of a TMS application, but benefits such as
service level improvements, increased market share due to customer
service process improvements and inventory reduction processes
should not be overlooked.

Connectivity – Integrated Stakeholders with TMS
A critical piece of the TMS solution is its capacity to connect the
many partners that have input on the freight movement process.
From procurement, vendors, transportation suppliers, customers and
distribution facilities, all of these stakeholders have the potential to
affect the cost and/or service outcomes. The TMS application should
have the means and functionality to handle and process information
from many different sources and formats, allowing for standardization
in the process regardless of the technological capability of the
stakeholder. Many of the Web-based TMS applications have varied
interfaces, information exchange processes and networks that allow
for electronic data exchange with even the most basic stakeholder’s
platform.

Optimization – Discover the Opportunities
As more information and data becomes available, many companies
are incorporating advanced decision-making technologies as a
competitive advantage. Customer demand for shorter cycle
times and globalization of operations has made logistics planning
increasingly difficult to manage. Many companies are turning to
TMS solutions with embedded constraint-based optimization and
genetic algorithm tools to deliver lowest cost/realistic planning
solutions.

Network design, mode optimization and load optimization are
all critical components of the strategic capabilities of a TMS
application. These optimization processes bridge the gap
between theory and design concepts with operating practices.
TMS applications need to produce robust multi-mode optimization
solutions, possess an array of optimization capabilities and have
the flexibility for tuning and modifying constraints as business
changes.
Transparency – TMS as a Vehicle for Change

Transparency in the transportation supply chain is often an initiative discussed to gain information on product flows. While this is certainly a valid driver in its own right, customers should look at transparency and the role of TMS in a larger scope to address the issue of accountability. TMS can be the vehicle for accountability as it relates to employees, suppliers, customers and even environmental standards. This accountability and the corresponding actionable items can help organizations reduce costs and risk, as well as offer opportunities to transform a defective process in the supply chain.

Within a TMS platform, organizations should monitor and report on nonconformance as it relates to their compliance standards. TMS transparency can be imperative in not only proactively addressing issues relating to supplier compliance, but it also allows for root cause analysis of nonconformance, which consequently accelerates the efforts to increase standards across the supplier base.

From the cost perspective, the system’s transparent nature enables organizations to implement and enforce contractual obligations, centralize planning processes and determine bottlenecks and inefficiencies within a transportation network. It is this visibility and accountability that will ultimately determine which suppliers are meeting their service obligations and those that may be impairing profitability.

Collaboration – Using TMS to Put it all Together

As mentioned, TMS and their Internet-based platforms are crucial components to driving efficiencies and cost savings. One of the most strategic ways a TMS application can be deployed is in the area of collaboration. With the progressive realization that vendors, customers and transportation providers can be potential collaborative partners in logistics, TMS solutions provide the data repository and execution platform to realize improved performance and profitability.

One of the most basic solutions that TMS applications employ is to address the notion of collaboration for inbound freight management. In many inbound freight networks, each supplier uses an isolated approach in moving their shipments to their customer. As companies take the first step to converting prepaid shipments to collect, they miss some of the cost advantages of a TMS to aggregate the network into a larger pool to drive down costs. This collaboration is really a forced process to see the efficiencies and reduce the individual costs by grouping the vendor community for the sake of the collect customer. The TMS allows the collect customer to have collaboration
between their vendor bases without any coordination directed by the suppliers. This can go further into the collaboration realm when a set of organizations can use TMS to increase the supplier community, therefore increase consolidation.

Another method of achieving positive collaborative results would be in the area of continuous moves. Continuous moves identifies a set of routes and schedules in a specific network and finds a minimum cost to build tours to connect several routes into closed-loop delivery models. TMS can help identify these loops and tender these multiple leg shipments to carriers to reduce or remove the assumed empty mile repositioning charges applied by transportation providers. This type of collaborative solution drives costs out of the network for shippers and transport suppliers alike.

**Challenges**

**Capital Constraints**
Many companies struggle with capital constraints. They find themselves stuck between a need for more efficient processes and the lack of capital to invest in the desired improvements.

**Lack of Resources and Expertise**
Many TMS implementations come with a host of upfront and ongoing requirements that are necessary to gain and maintain the desired functionality. These requirements include technology investment, maintenance fees and IT staff for ongoing development and troubleshooting.

**Scalability**
Off-the-shelf solutions can be too expensive for small to mid-size shippers. The costs of implementing and operating them may exceed the transportation savings or lower the ROI of the project below a minimum threshold. Many large enterprise clients may have complexities across their operating divisions that require customized solutions. A “one-size-fits-all” model simply can’t adapt to all of these variables.
Solutions

Capital Constraints
Engage a provider who can deliver a solution that aligns savings and project returns with the financial commitment from your organization. A good provider will leverage their expertise to capitalize on low hanging fruit which is often enough to offset many project costs. These immediate improvements can lower the upfront investment by the customer and reduce overall capital requirements.

Lack of Resources and Expertise
Consider a provider that incorporates the IT resources, development, troubleshooting and start up as part of their solution. Such providers are often identified as “hosted TMS” providers. This model allows the provider to centralize the IT resources and apply them towards multiple customers. This lowers the total cost to the end user and provides on demand resources instead of having idle in house resources awaiting the next need.

Scalability
Smaller shippers should engage providers with a flexible model that can be scaled down to match the size of the customers operations. These solutions often come in the form of transaction based pricing or low cost standardized solutions.

For the large enterprise clients, consider a provider whose model can be customized to meet the specific requirements of the business. A flexible platform that can reach across divisions, integrate multiple legacy processes and systems, plus deliver outcomes tailored to each operation will deliver the best possible results.

Summary
Given the current economic climate, many organizations are clearly focused on logistics costs. TMS solutions allow for better transportation planning and execution processes. The evolution and importance of TMS solutions has always been focused on the needs of organizations to find cost savings and optimal ways to increase performance. Today, the most robust TMS applications and service providers can implement solutions that address current network bottlenecks and inefficiencies. Cost savings can be achieved through various means, but it is through true process improvement, rather than market rate negotiation alone, that will provide sustainable results.