

WHITE PAPER

Optimizing Transportation Management Systems

An Industry Situation Analysis



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1. The Distribution Environment

Broadline distributors operate in one of the most complex supply chain environments in the food services industry, made up of many disconnected components, legacy systems and manual processes. Inefficiencies in product purchasing, transportation routing and scheduling, carrier selection and contracting, among other areas, result in a reduction of the already miniscule operating margins.

Accounting for half of all U.S. food service distribution sales and, for the most part, serving a diverse customer base consisting of single establishments and small chains, they generally offer a one-stop shopping experience by carrying a wide range of food, equipment, and supplies

Under tremendous pressure to optimize and reduce costs, many distributors adopted various operating and technical practices, referred to as Efficient Consumer Response (ECR). Emulating Wal-Mart's logistic model to assure a faster and cheaper flow of products through the food system, they deployed technologies such as EDI and UCCNet.

According to a 2003 study conducted by the Sparks Companies, Inc., the buyer-seller relationship is changing throughout the food supply chain as manufacturers continue to move toward delivering their products directly to retailers. Conversely, more and more retailers have developed their own distribution centers and buy directly from manufacturers.

Distributors have begun to incorporate newer technologies in order to improve both the visibility and the flow of information, directly affecting scheduling and inventory in an effort to more effectively control their supply chains and reduce costs. The goal is to increase their capacity in order to deliver cost-effective, just-in-time services. This represents a colossal change that is literally restructuring the food industry worldwide.

A 1999 "Perspectives on Material Handling Practices," released by Cypress Associates pointed out that, "...(wholesaler's/distributor's) ability to communicate with trading partners, receive, break bulk, kit, assemble, and redistribute in a timely, economic fashion will be the measure of their success..." It further explained that "...21% of their fixed asset dollars had been spent on computers and related equipment...an additional 35% on warehouse expansion/enhancement...and they spent 18% of their information systems' budgets on logistics."

The wholesale food industry has experienced recent sales surpassing \$1 trillion. Food distribution represents the largest share of value to food and fiber products. Distribution represents \$537-billion or a 43% segment of this dynamic industry. The 10 largest broadline distributors accounted for \$170 billion, or one-third of total food service distributor sales in 2001. Even so, with consistent meager profit margins the economic reality, it is vital that broadline distributors, who are becoming increasingly dependent on technology in order to squeeze every dollar possible, take a closer look at the challenges and common failures of these emerging technologies.

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Even though food distribution companies can spend as much as 5% of their gross revenue on transportation, it is possible to receive rebates of as much as 1% of the gross revenue. This can be accomplished through the development of more efficient transportation and warehouse processes and the application of Supply Chain Execution (SCE) systems, of which Transportation Management Systems (TMS) is a key component.

The top 20 broadline food service distributors are spending upwards of \$2.9 billion on transportation, which represents a market potential of \$580 million for developers of TMS systems.

If distributors were able to solve the systemic problems in transportation logistics, they could recapture margins of as much as \$100M for the largest distributors. Add to this the improved supply chain visibility and intelligence that can be achieved and broadline distributors can more efficiently create avenues of improved customer service and product differentiation.

2. The Challenges

There are three distinct causes for the high costs of transportation management logistics:

- Lack of process automation and extensive use of manual processes
- Lack of analytic tools to make use of available information
- Low volumes that eliminate opportunities for economies-of-scale, particularly among the vast number of companies that fall below the top 20 broadline revenue base

Industry leaders today understand the reality of competitive differentiation. It is clear that through supply chain optimization the distributor can realize increased profits and efficiencies while decreasing costs. While the industry is experiencing an influx of newer and more powerful software solutions, the primary problem of full optimization—including end-to-end visibility, data synchronization, streamlining, and integration—has not been addressed. Additionally, the supply chain continues to be segmented and managed as independent components with little communication between key stakeholders.

What is needed is a comprehensive solution and systems-based methodology that enables logistic managers to optimize their supply chain execution, focusing on the “ideal conditions” for managing SCE by defining the internal and external pressures and events that influence or affect supply chain execution. These solutions should provide the intelligence, tools and support to understand and control the pressures and events resulting in reduced operating costs and increased freight savings.

Ideally, these solutions need to approach the supply chain as a single system and integrate the business and information needs of all stakeholders—enhancing competitive advantage. By providing a usable framework and methodology that takes the complexity out of business process integration, solutions such as this can capture corporate expertise by aligning logistics efforts and leveraging existing investments in

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warehouse and logistic software technologies. By incorporating data from all existing SCM applications, these solutions can provide the intelligence for improving the efficiency and effectiveness of the supply chain.

By replacing routine, manual tasks (e.g., load building, invoicing, etc.) with automated processes, speeding and simplifying the work so logistics managers can concentrate on higher-value activities, these solutions can manage the day-to-day logistics operations from a central point, while accessing the organization's central repository of data and applications for fast load-building. The benefit is a reduction in the wasted time and errors of manual data entry by automating purchase order data imports. It facilitates the load-building process and efficiently organizes the entire accounting side of the business.

What is desired are more powerful tools that connect reporting, optimization and scheduling in ways that are easier to customize and configure. There is a consensus that these reports are vital in conjunction with optimization in order to drive efficiency and integration with other groups, such as purchasing. In general, the drivers that come to play are:

- Vendors that have deep experience in the industry.
- Products that focus on the fundamentals of their business as it's currently run.
- Technology that is reliable, usable and easily customized.
- Customer service and technical support that is responsive and knowledgeable.
- Contacts and reps who understand their jobs.
- Development teams that build from customer specs, rather than marketing teams that drive product specs.

Change is inevitable. Sometimes, though, it needs a nudge when it comes to adopting new technology. The main drivers for change are:

- *Revenue Optimization:* Every day, department leaders and managers feel the pressure to maximize every dollar, both in terms of revenue generation and cost savings. This primary driver is reflected in many feature sets, including reporting, scheduling and optimization. It is also reflected in concerns about technology cost of ownership and reliability, as well as integration.
- *Process Streamlining and Visibility:* This is closely tied to Revenue Optimization. It represents a company's ability to see opportunities, threats, and weaknesses in both their logistics processes in general and in real-time operations, and to address them with an increasingly streamlined system.
- *Product Reliability and Support:* Businesses in this market are particularly concerned about technology reliability, performance, up-time and support. In part, this is likely due to the relatively unsophisticated technology operations on site at most distributors, and experience with the legacy systems. The impact of downtime on revenue is severe—affecting scheduling, deliveries, labor and all of their downstream costs. Thus, it is a major concern in vendor selection.

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- *Integration:* Just as system downtime from product failure is a concern, downtime due to technology, process and data synchronization is also a major consideration. Many broadline distributors still depend on overly complicated systems with many dependencies patched across department silos. Moving new capabilities into an existing system without disruption is mission critical.
- *Usability:* Existing technology tools in this market are notorious for bad design and usability, preventing users from extracting the full power and benefit from their software.

3. The Twisting Road Toward Solving Challenges

As more and more distributors connect to the Internet, EDI and other alternatives, such as UCCNet and Wal-Mart's RetailLink, are becoming increasingly important as a convenient mechanism for companies to communicate. A joint study conducted by Computer Sciences Corp., Consulting and Systems Integration, and the Stanford Global Supply Chain Forum, stated that if the food service system adapted such technology it would save \$14.3 billion annually.

Supply Chain Management (SCM) software, according to Boston-based AMR Research, comes in two types of applications: Supply Chain Planning (SCP) for demand planning, forecasting, production scheduling and long-term planning; and SCE, to manage transportation, warehousing, inventory, etc.

All have their limitations and compatibility issues, particularly SCM and EDI. In addition to overlong timeframes to recover investment costs, some require everyone along the supply chain to use compatible systems and software, which not only takes increasingly higher amounts of capital to install, but often requires skilled personnel to operate. Being both costly and complex, many companies have been discouraged from acquiring these solutions for fear of pulling already limited capabilities away from core IT resources.

"Companies can be slow to adopt technology solutions, first, because they are expensive, no matter what the company size," said Jon Fieldman, vice president of enterprise integration at DSC Logistics in a recent *Inbound Logistics* article. "The risk of failure also is high, and the kind of employees necessary to help big IT projects succeed are often in high demand elsewhere in the business."

Also, because the software a distributor ultimately chooses to implement is often dictated by personal bias, not necessarily based on an understanding of its optimum functionality, the lack of integration should not be surprising. Unfortunately, it's also evident that many in the industry continue to stay with SCM software that fits within their existing framework and "business-as-usual" mindset. They are often reluctant to embrace change and will do so only when they discover that the competition has already begun to incorporate a newer technology. When change does eventually take place the main impetus, rather than enlightenment, is often fear of being left behind—surpassing the initial fear of risk taking.

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This particularly uninspired approach to selecting a suitable solution, combined with a general lack of interest in the relatively small niche food services market on the part of major software developers outside the industry, has resulted in limited choices in SCM software.

4. Avoiding Roadblocks To Change

Many companies do have mainframe-based technologies to handle discrete portions of their supply chains, but they lack integration with other systems, limiting problem solving to one issue at a time—often creating other problems because they weren't looking at their operation systematically. The functionality in developing robust reports may actually be in the software solution, but it is so imprecise that it is difficult to extract any useful information. The major issue today is that it is being addressed as a technology problem, where it really should be addressed on a much more systems-based approach.

The distribution industry is awakening to the possibilities of the maturing logistic technologies being deployed in other markets. A significant barrier, however, to developers entering this market is the complexity of logistics processes at the level of execution. While SCP and ERP solutions are often general enough to translate well across industry barriers, SCE is highly specific not only to each vertical, but also to narrow niche segments within each vertical. The automation of these processes requires deep industry expertise, something a newcomer can't easily deliver.

In the food distribution space, there are additional barriers closely related to the technology-averse climate. This is an industry that is still very close knit, and is comprised of networks and relationships that often span decades. There is a clear and articulated preference among economic buyers in this industry for vendors who have been in the market for the long haul. They tend to believe that only an industry player can understand their challenges, and they mistrust the intentions of larger vendors—particularly those from outside the industry. As one VP of procurement put it: “Large vendors don't really care about my problem. They tell me what my problem is and then how their product fixes it. They don't listen.”

Even with this prevailing attitude seemingly entrenched in this industry, if trends within other verticals play out, vendors from outside the industry specializing in ERP or SCP products will come looking for an acquisition target in order to buy their way into the space.

One overriding problem, however, that may impede their entry into this market is that some supply chain software developers have not been able to deliver on their promises. Nearly half of all SCP implementations have taken more than a year to deliver any discernable benefits, causing lackluster interest and meager sales.

SCE, however, has for the most part, produced measurable savings within six to nine months of implementation. One reason SCE is experiencing more acceptance is it enjoys a leadership role in what is being called the “wireless supply chain,” which involves tracking goods as they move along the supply chain through the use of radio

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frequency identification (RFID), global positioning system (GPS), wireless fidelity (WiFi), and bar-coding technologies.

Newer Internet-delivered technologies are helping to reduce the demands on internal IT departments in the implementation of these solutions. Distributors that choose these tools can experience a significant reduction in transportation costs. Empowered by the omnipresence of the Internet, these companies are experiencing savings beyond what was originally anticipated—from 10% to 40%.

One company expects the Internet to mature over the next few years giving distributors the ability to gather in real-time demand information through the entire supply chain, which would enable the use of the data to develop lot-sizing production methods that will allow distributors to demand more rapidly than they do today, thus saving billions of dollars through lower inventories.

5. Negative Attitudes and Economics

An extensive Transportation Management Systems (TMS) research project conducted to determine industry attitudes toward the TMS market and the selection and purchasing process, resulted in some interesting, if not altogether surprising, revelations.

A significant number of companies in this industry seem largely out-of-touch with the TMS market beyond the software products they are presently using. Across the board, from VP on down, there not only appears to be little interest in the software market beyond the products with which they are familiar, there is a general suspicion of the experience and commitment of larger software logistics companies now attempting to enter the food service space. Managers questioned for the study felt that software companies were not paying attention to the fundamentals and were only interested in selling the latest upgrades rather than providing a product that does not require them to re-engineer their process.

Edward Feitzinger, vice president of technology and engineering at Menlo Worldwide would seem to concur by his comments in the *Inbound Logistics* article: “Technology—logistics or not—is often ahead of an organization’s ability to absorb it. Logistics is often the backwater of IT within larger companies. As such, companies display a lack of interest in IT projects, despite the promised return. Most organizations don’t have the bandwidth to stay abreast of this dynamic market. Those that choose packages also discover they need to customize it to conform the process to the package, or the package to the process.”

A selection process for choosing a possible TMS solution is nearly non-existent. Many managers simply accept what their superiors, colleagues, or industry associations recommend without determining if it is appropriate for their individual needs. This general negative attitude extends to industry magazines and trade shows—dismissed by some as, “marketing events.”

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While pressure remains high to cut costs at all levels, profits have remained relatively low compared to other industries that have enthusiastically embraced supply chain management software technology solutions.

6. Focusing on Key Pain Points

Extreme pressure to improve revenue and reduce costs is producing a pain factor that threatens the viability of many broadline distributors. Logistic managers feel the pain directly because their compensation is often based on improved margins that are nearly impossible to achieve. The inability to meet performance goals is one factor contributing to a logistic manager turnover rate of nearly 30 percent.

By improving operational efficiencies, there is greater promise of rebuilding margins. The drive to improve costs in the supply chain and the attendant potential of automation are defining forces in optimizing transportation management systems.

Beyond the general objectives to improve costs, there are some specific areas—pain points—that economic buyer's cite as particularly important. While seemingly obvious, they still need to be closely scrutinized as interlinking concerns rather than as separate, unrelated issues.

- *Reporting:* Otherwise known as data mining, which, if better understood, would enable broadline distributors to optimize the mounds of data that they already have in their systems, including logistics routes, schedules, carriers, etc. This data is indicative of every aspect of their business. For example, a distributor with innumerable truck-load deliveries every month may find hidden nuggets of information buried in the mounds of data documenting every delivery that include: where each truck originated, where it went, who the vendor was, the carrier, how much was moved, and cost. What they don't have, however, is the ability to effectively drill into that data and extract information that they can utilize to make strategic and logistic decisions. This represents a staggering loss of operating capital. It would be a tremendous advantage just to be able to optimize the fact that if you knew that you had X-number of truck loads coming from Iowa that are destined for Kansas on any particular day, you would exponentially increase your capability to use that information to favor a specific vendor or to reschedule the delivery to a different day in order to take advantage of trucks that might already be there. That kind of information can save distributors millions of dollars each year.
- *Scheduling:* One driver waiting with an empty truck at a loading dock is unfortunate timing. Hundreds of drivers sitting in trucks at hundreds of loading docks around the country could break the back of a distributor that is already operating on miniscule margins. Complicating matters further are labor laws that govern the amount of time a driver can spend on the clock. Time spent waiting at a facility, is time they can't be driving. Sitting or driving, the company pays either way.
- *Optimization:* This is the ability to make use of all the intelligence that could possibly be gathered from multiple sources. For instance, a distributor services

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a chain of restaurants that needs 10,000 bottles of ketchup. The distributor puts that into the order to be delivered next Wednesday. If their system was integrated with their scheduling and their reporting, they might be able to see that they have a company that's going to be near the Heinz facility next Thursday instead of Wednesday. If they could hold off that order for one day, they could save \$10,000 on that particular load because the truck would be able to be there and pick it up on their back haul. Right now, the systems are not integrated, so they're not optimized.

- *Traceability/Visibility:* Visibility is the ability to see all this information, which has taken on even more significance with the advent of the Homeland Security Act, not to mention already existing food product safety regulations. To continue with our ketchup analogy, traceability allows you to see at a glance from where the tomatoes were packed and shipped all the way to where they are transformed into ketchup and other products. Economic survivability gives impetus to this capability, but with the possible enforcement of the Homeland Security Act, being able to effectively follow the trail of products, be they tomatoes or computers, from origin to their ultimate destination can be highly desirable should there be a contaminate or possible terrorist incident along the route. At this time, distributors don't have that ability and the issue is more one of visibility than traceability because the regulations are not yet in place. Visibility is more from the standpoint of the reporting and the optimization, being able to know where products are at a certain time and be able to pinpoint them.
- *Freight Payment:* This is primarily the relations between the distributors and their freight carriers, who in many cases are independent. There are a number of issues in terms of the payment, beginning with the negotiations of a contract, all the way from determining the need for a carrier to haul a particular load to negotiating the best price for its service. These can be based on any number of variables: when the load is delivered, whether or not everything was delivered as promised, how much of that delivery was sent back due to damage in transit, etc.

7. Technology Expertise Backed by Industry Experience

The ultimate goal is visibility for the entire enterprise—with views of enterprise-wide logistical moves from vendor- and logistics-managed loads, as well as the ability to optimize and leverage carrier contracts and vendor purchases from an enterprise perspective rather than independent geographical agreements. This ability for anyone in the organization to have visibility into inventory in transit, schedules, delays and exceptions across the enterprise is essential when optimizing distribution operations.

Many software companies, though, have not successfully addressed these concerns. Additionally, there's a problem in the whole approach, which is looking at it as an individual silo problem within the company. In order to address all of these issues moving forward, logistic managers need to take an entirely new approach, which is to look at it from a systems-theory basis.

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An analogy can be taken from the air controller environment. The problem that many broadline distributors have is that they throw a lot of people at the issue. Unfortunately, the bulk of these people often work at the line level. In these instances, companies can start running into issues where they're not communicating well. It's comparable to having hundreds of planes flying into an airport. Each one knows where it's going and where it is. If, however, there is no one individual—a controller—managing the total environment from a position where they can make sense of all of the traffic, the result is chaos. It is more advisable to work that functionality into a system of their supply chain where they're looking at the individual line level of approaches, but also trying to organize the flow of information at a higher level.

Ultimately, the basic criteria for positioning in the transportation logistics space today are based on technology and industry expertise. It is vital to partner with a software provider who can offer a systems-based methodology, up-to-date software capabilities, backed by extensive industry experience in supporting food distribution logistics processes.

8. About Tramco

Tramco was founded in 1990, when former Sysco Chief Financial Officer and current president Paul W. Coulter recognized a tremendous opportunity to assist inbound Logistics Managers optimize freight savings in what was rapidly becoming a fiercely competitive environment. His vision was to turn industry knowledge — readily available data — into technology solutions to better facilitate product movement.

That vision became a reality when Coulter assembled a select group of industry experts, critical thinkers, and creative engineers. Together, this extraordinary team applied their deep knowledge and understanding of logistics to build a suite of software products and professional services that have since revolutionized the inbound logistics industry: