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Transportation two-fer

By Bill Epmeier

Track-and-control software is helping contain truck fleets' operating expenses while making their deliveries more efficient.

Retailers and wholesalers have methodically been working their way down the supply chain, squeezing out costs as they go. The area that is attracting many companies' attention these days is transportation.

Eighty percent of 500 CEOs in a recent study by the University of Chicago said their companies have plans to focus on transportation costs. "Many executives will tell you their focus is strategic, but it's still driven by cost," says Robert Shaunnessey, executive director of the Warehousing Education & Research Council in Oakbrook, Ill.

High fuel prices may be the short-term impetus, but the squeeze involves more than just diesel costs, says Charles Bealke, project manager in the transportation area for Retalix, a supply chain software provider to supermarkets and wholesalers with its U.S. operation based in Plano, Texas. Transportation typically accounts for about 4% of a retailer's expenses.

Driving the move to trim that spending is an explosion in recent years in software applications that allow companies to track and control every aspect of their transportation-related costs. Some vendors have developed integrated software packages that track merchandise from purchase, to pickup at the supplier's loading dock, all the way through to sale in the store. Others provide individual transportation components so users can mix and match software programs.

Saving money is just one of the benefits of the new programs. Even more important is "visibility," or "transparency," says Shaunnessey. People want to know where all of their assets are at all times, so they can anticipate changes or problems.

For example, if a supermarket operator's point-of-sale systems show that the first week of sales during a promotion are higher than expected, this early warning can be transmitted to the transportation department, alerting it that additional inventory needs to be picked up from the manufacturer or distributor. After the transportation management system estimates the amount of extra cargo space that will be needed, someone goes online to select a carrier and order the additional merchandise.

Likewise, many programs continuously track the location of trucks so that if one delivery is running late, the dock arrival time is changed and the scheduled unloading labor is redeployed.

“The older transportation management systems were mainly about managing costs, whereas the newer systems allow people to see problems and correct them on the fly,” says Shaunnessey. Ultimately, he adds, being able to foresee problems results in both cost savings and better customer service.

Transportation management software applications typically consist of several related modules that cover the following tasks:

•**Outbound delivery network.** Planning and routing of deliveries from the warehouse to the stores. This portion would interface with the warehouse’s order management system, which has information about the size and number of pallets or cartons to be delivered to each store.

•**Evaluation.** Tracks the history of what actually happened on the delivery route in order to make improvements in the future. Information would include departure and arrival times at each store, route taken, waiting time, time to unload and reasons for any delays.

•**Backhaul.** Schedule of backhaul pickups, what is to be picked up, schedules and the transportation costs and documentation involved.

•**Inbound.** Database of approved third-party carriers and their rates and conditions, along with the status, location and arrival times of scheduled inbound deliveries. Inbound modules will list the contents of the load and what the delivery costs total.

•**Yard management.** Location and contents of trailers parked in the yard and the status of the trailers.

•**Fleet management.** Fuel cost tracking, along with data about the condition of the trucking fleet and major components like engines, tires and trailers. Module typically includes a maintenance history and dates for future scheduled maintenance.

•**Compliance.** Drive times for operators by trip to document that they have not exceeded the prescribed daily hours.

While the major focus of the applications has been on the outbound side—route optimization and fleet management from warehouse to stores—Charles Fallon of KOM International in Montreal says the big potential for savings in the future will be on the inbound side.

Typically, the inbound cost of freight is buried in the price of goods, and that price can be inflated as much as 30%, Fallon says. The challenge is to get manufacturers to break out the freight costs separately, and that has to be done, realistically, at the time merchandise price is negotiated; otherwise vendors may grossly underestimate transportation costs.

The cost saving for the retailer or wholesaler on the inbound side comes from using the company's own trucks to pick up merchandise or contracting with a third-party carrier to do it for less than the manufacturer charges.

A PACKAGE OR A MENU

While some software vendors, among them Retalix and Manhattan Associates, provide transportation management as one module within a highly integrated supply chain package, others sell specific applications, such as dock scheduling, route optimization, inbound freight and yard management.

For example, Descartes Systems Group in Waterloo, Ontario, Canada, sells a delivery management suite of programs to retailers that allows them to plan, schedule and track deliveries to stores and to manage inbound traffic.

It is not just a matter of tracking inbound domestic shipments, but increasingly foods are coming from overseas, explains Denis Reilly, president of the transportation management area at Ozburn-Hessey, an international supply chain management company.

Most transportation management software packages, even the integrated ones, are bought piecemeal. "This is not a bad thing," Fallon says, noting that it allows companies to figure out exactly what they need and buy just that module. For example, not every company needs yard management software, especially those with 30 or fewer trailers sitting around the yard at any given time.

Taking small steps also make sense, Fallon says, "because vendors often understate the costs of implementation," including the management time and effort it takes to get buy-in for new programs from many different departments.

The mix-and-match approach allows companies to select the best software for every application. Integration of individual applications into an existing supply chain management program is usually not a major problem because all vendors supply interfaces between their individual modules and those of other major software applications.

An alternative to buying a specific transportation management application for use on a company's own computers is to buy an on-demand service like route management from a third party. These Internet-based programs are growing in popularity. The downside, Fallon says, is that some on-demand systems tend to be cookie-cutter and lack functionality.

While many retailers cherry-pick specific transportation applications from different vendors, Fallon says there is an argument to be made for sticking with a single vendor for supply chain software. "One vendor equals one set of upgrades," he says, which is easier than depending on various sources to upgrade interfaces on a timely basis. There are also compatibility issues that companies do not need to face when they are dealing with one company's integrated package.

Transportation decisions will have a major impact on warehouse operations and, as a result, how warehouse management software is used.

PICKING TO THE ROUTE

Outbound load planning, a part of the software, determines what sequence of store deliveries will result in the most efficient and cost-effective routing. This information, fed back into warehouse management software, will determine the picking sequence for store orders and even the way the warehouse is organized, Fallon says.

For example, if a wholesaler has large and small store orders mixed on a single delivery route, that may affect how it organizes the pick lines. The same issue comes up if non-pallet-size orders of private label products are included. The reason, in these instances, is that a small mom & pop store order will include many different items on the same pallet, as opposed to larger store orders where individual products are palletized. To complete the small orders, pickers need to range through many more aisles, which increases both time and cost.

The interface of two functions—warehouse operations and transportation management—creates an efficiency dilemma that is not easily resolved. The software program for each is set up to produce the most cost-efficient path within the application, but when the applications meet at the loading dock, management has to decide where to adjust. Should managers try to optimize transportation efficiency, even if it means higher labor costs in the warehouse, or should they sacrifice routing efficiency to hold down labor costs for picking?

The answer, Fallon says, is that management decisions on this and many other issues need to be built into the planning process from the beginning. “You have to get to know the software very well, look at every function and demo it using your own data,” he says.