



Aberdeen *Group*

Best Practices in Transportation Management

*How Companies Are Driving
Cost and Service Improvements*

June 2005

Executive Summary

Supply chain and transportation executives face intense pressure to deal with transportation rate and capacity challenges, as well as satisfy the increased thirst for transportation information from the rest of the organization. To identify today’s success strategies for transportation management, AberdeenGroup researched the domestic transportation practices of a variety of large and midsize companies. This investigation found that a number of companies have successfully transformed their transportation management operations to drive increased value for their businesses, while keeping cost and capacity issues in check.

Seven best practice leaders were selected to illustrate these success strategies (Table i). Each leader is profiled in a case study that discusses the company’s business challenge, transportation strategy, technology deployment, process and organizational enhancements, lessons learned, and results.

Table i: Best Practice Winners and Their Solution Providers

Enterprise Winner	Featured Best Practice	Solution Provider
Ford	Inbound Cost Optimization	Viewlocity
Goodyear	Load Planning Center	Manugistics
LifeWay	Small Package and LTL Consolidation	Irista
Orange Glo	Carrier Collaboration	LeanLogistics
PPG Industries	Load Control Center	Manhattan Associates
Unilever	Customer-Centric Transportation	LeanLogistics
Consumer Goods Manufacturer	Customer Service and Warehouse Synchronization	Logility

Source: AberdeenGroup, June 2005

Key Findings and Recommendations

Well-established best practices – such as centralizing the transportation management organization, automating order consolidation, taking greater control of inbound freight, and self-invoicing – continue to drive value for companies. However, three new best practices have emerged: carrier collaboration, universal information access, and 360-degree scorecarding. AberdeenGroup’s transportation best practice checklist can be used to verify that a company’s transportation roadmap reflects current best practices.

Although best practice leaders rely extensively on transportation management technology to drive their transformation programs, they don’t treat technology as a silver bullet. Executing transportation best practices often involves creating new organizational structures and increasing interactions with other internal departments and trading partners. Leaders



take specific actions around change management, training, and metrics to make their technology-enabled initiatives long-lasting successes.

For companies contemplating a transportation transformation program, recommendations for action include:

- Don't promote the transportation technology project as "one and done."
- Focus on driving information and synchronization value to internal departments and external stakeholders.
- Upset the organizational apple cart to create more efficient transportation operations.
- Hold transportation costs and capacity issues in check by implementing a multi-faceted carrier collaboration program.
- Train users on transportation technology on a continual, as-needed basis rather than through a one-time, comprehensive training course.
- Actively protect the quality of the transportation management solution from degrading over time.
- Celebrate the results to gain support for implementing the next step in the transportation roadmap.



Table of Contents

Executive Summary	i
Key Findings and Recommendations	i
<i>Chapter One: Issue at Hand</i>	1
Transforming the Waterfall.....	2
<i>Chapter Two: Key Findings and Recommendations</i>	3
Best Practice Checklist	4
Have We Centralized Transportation?	4
Have We Created Freight Efficiencies with External Organizations?	5
Have We Automated Routine Processes?	5
Have We Set Optimal Service Frequencies and Pricing?	5
Have We Created a Carrier Collaboration Program?	5
Have We Evaluated Self-invoicing?	6
Do We Provide Universal Information Access?	6
Have We Implemented 360-degree Scorecarding?.....	6
Best Practice Use of Technology	7
Best Practice Leaders.....	9
<i>Chapter Three: Best Practice Case Studies</i>	10
Orange Glo: Carrier Collaboration	10
Goodyear: Load Planning Center	13
LifeWay: Small Package and LTL Consolidation.....	15
Consumer Goods Manufacturer: Customer Service and Warehouse Synchronization	17
Ford: Inbound Cost Optimization	20
Unilever: Customer-Centric Transportation.....	22
PPG Industries: Load Control Center	25
Author Profile	27
<i>Appendix A: Related Aberdeen Research & Tools</i>	28
About AberdeenGroup	29



Figures

Figure 1: Top Pressures for Improving Transportation Processes	1
Figure 2: Transportation Management’s Expanding Responsibilities	2
Figure 3: Protecting the Quality of the Transportation Solution	8

Tables

Table i: Best Practice Winners and Their Solution Providers.....	i
Table 1: Transportation Management Best Practices	3
Table 2: Best Practice Case Studies	9
Table 3: How LifeWay Changed Its Shipment Mix to Drive Savings.....	16

Chapter One: Issue at Hand

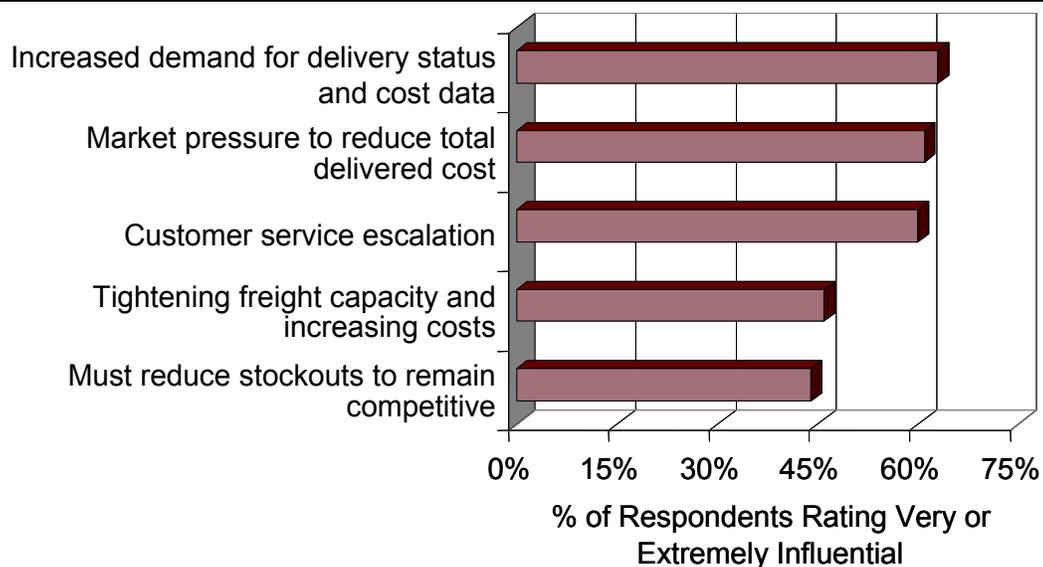
Key Takeaways

- Transportation groups must keep costs down, service levels up – and satisfy the growing thirst for transportation information.
- Transportation can no longer be the last step in a waterfall fulfillment process.
- Transformation initiatives are radically expanding the scope of transportation management responsibility.

Supply chain and transportation executives are under newly intensified pressure to keep transportation costs down in the face of rate increases and keep service levels up in the face of capacity constraints. To identify today’s success strategies for transportation management, AberdeenGroup researched the domestic transportation practices of a variety of large and midsize companies and selected seven as best practice leaders. This research, which expands upon a 2004 AberdeenGroup transportation benchmark of 286 companies, is designed to help supply chain professionals understand how their peers have driven transportation performance improvements through organizational, process, and technology changes.

In addition to cost and service challenges, transportation executives have had another challenge dropped onto their plates: delivering transportation-related information to the rest of the enterprise and to customers. In fact, transportation managers report that satisfying this thirst for transportation information is their most intense pressure (Figure 1).

Figure 1: Top Pressures for Improving Transportation Processes



Source: AberdeenGroup, 2004

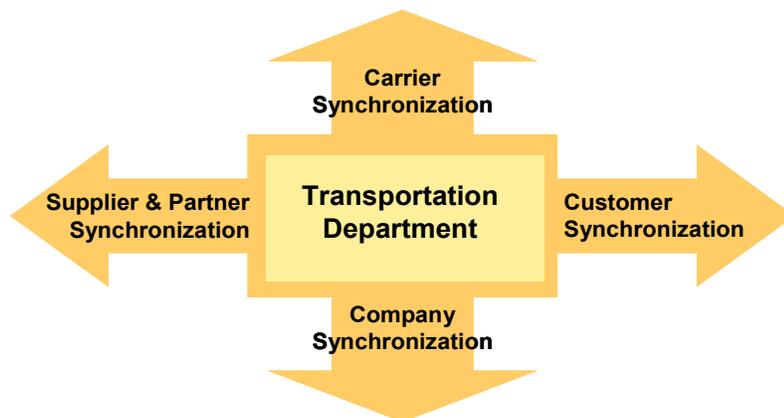


Transforming the Waterfall

How are transportation managers responding to these pressures? AberdeenGroup's best practice research shows that top performers are embracing the new challenges, treating them as an opportunity to increase the value the transportation organization delivers to the enterprise. Traditionally, the transportation function has been the last step in a sequential, waterfall fulfillment process, responsible for consolidating and shipping out the orders the warehouse packs. By comparison, in best practice companies, the transportation department plays a central role in synchronizing activities and data across the key stakeholders in the supply chain.

One transportation director said, "At our company, transportation was not viewed as a differentiator or core competency – it was just supposed to happen. But now that mindset is changing." At the best performing companies, the transportation department's scope of responsibilities and the level of collaboration with other internal and external functions have sky-rocketed (Figure 2).

Figure 2: Transportation Management's Expanding Responsibilities



Source: AberdeenGroup, June 2005

In some instances, the transportation department is now among the first to learn about customer orders rather than the last. It is directing other departments such as warehousing on when to take action to maximize consolidation opportunities while meeting customer-specific service level requirements. In other cases, the transportation department is spearheading a recalibration of supplier and customer delivery dates and frequencies to reduce total delivered cost, prevent dock congestion, and make room for high-profit orders. High-performing companies are also greatly improving their synchronization with carriers through weekly capacity forecast sharing and online appointment scheduling.

Transportation transformation initiatives have their own challenges. Many groups find that, to be successful, they must knock down organizational walls, challenge conventional wisdom about how to serve customers, change hard-nosed relationships with carriers to be more collaborative, and be willing (and able) to share information freely.

The good news: Transformation is a journey and cannot (and should not) be done in one fell swoop. Continuous progress down a transformation roadmap is delivering the best results for the best practice winners.

Chapter Two: Key Findings and Recommendations

Key Takeaways

- External collaboration and transportation centralization top most transportation organizations' wish list, yet only a minority has been able to implement these practices.
- New best practices have emerged, including carrier collaboration, universal information access, and 360-degree scorecarding.
- Transportation management technology projects need to be part of a multi-year transformation program rather than treated as a one-shot magic bullet.

Which transportation strategies are most influential in driving performance improvements? According to benchmarked companies, external collaboration and internal transportation centralization top the list (Table 1). Although these strategies have been discussed for years, most companies have yet to break through corporate inertia to make these strategies reality. For instance, 63% of benchmarked companies report that they still have fragmented transportation operations or have yet to coordinate inbound and outbound transportation. The best practice case studies in Chapter 3 discuss how companies in a variety of industries have succeeded in turning these strategies into action.

Table 1: Transportation Management Best Practices

Rank	Best Practice	% Stating It Has Been Important in Driving Improvement
1	Collaborate with carriers, suppliers, and customers to create more economical transportation processes	88%
2	Centralize transportation planning across the company via a load control center	77%
3	Reconfigure transportation network to optimize total delivered cost	76%
4	Create a more customer-centric transportation process	73%
5	Take greater control of inbound freight	69%
6	Synchronize activities across corporate functions	66%

Source: AberdeenGroup, 2004

The transportation best practice leaders profiled in Chapter 3 did not concentrate on a single best practice but rather focused on designing and executing a best practice program. The program consists of a roadmap of how the company plans to improve its transportation practices over multiple stages to meet corporate business objectives. These



objectives could be supporting new business growth without having to increase transportation staff, improving customer responsiveness and on-time delivery rates to drive more sales, or driving down total delivered cost to be more competitive.

Best Practice Checklist

The following is a best practice checklist to consider for the corporate transportation roadmap. Three new best practices have joined the traditional list: carrier collaboration programs, universal information access, and 360-degree scorecarding.

Have We Centralized Transportation?

The most effective way to maximize transportation opportunities across the company is to centralize transportation by creating a “load control center” or “shared service.” In many cases, this will mean upsetting the organizational apple cart to create more efficient transportation operations.

Consider centralizing at least some of the following functions:

- **Centralize transportation network design** to identify the lanes, pool points, drop yards, dedicated fleet sizes, and other distribution elements that can be leveraged across the company. More advanced companies can look to create cost- or profit-optimized master transportation plans, considering service levels, freight and inventory costs, capacity, target inventory levels, and so on. These master plans may set delivery modes, frequency, quantity, and sequence. Highly skilled central planners can create transportation designs that local groups never would have the time (or, often, the expertise) to analyze.
- **Centralize transportation procurement** to aggregate shipment volume across the enterprise. Centralized procurement drives volume discounts from carriers and creates RFP and carrier selection consistency. Consistency also benefits the carriers since they no longer have multiple RFP formats and company contacts through which to navigate.
- **Centralize transportation planning** across the company to increase shipment aggregation, backhauls, continuous moves, pooling, zone skipping, and other cost-lowering consolidation methods. Best practice leaders often gradually centralize more and more of the transportation planning process across divisions, including outbound, intra-company, and inbound moves across for-hire and dedicated fleets. Best practice leaders also often move transportation planning closer to the point of order taking so that it is no longer an end-of-the-line function; this increases the window for consolidating shipments. In cases in which centralization is organizationally challenging, some companies start less intrusively by having central planners develop routing guides for local execution and create collaborative shipping schedules (e.g., repeatable continuous moves or multi-stop truckloads) across divisions.
- **Centralize transportation execution** to create a consistent, efficient way to tender shipments to and communicate with carriers.
- **Centralize transportation monitoring and analytics** so that a single enterprise system contains plans, costs, and status information for all shipments, as well as past history for comprehensive analytics.



- **Centralize freight settlement** to create payment dependability and consistency for carriers and set the stage for efficient self-invoicing.

Have We Created Freight Efficiencies with External Organizations?

Fully 42% of benchmarked companies report they either have established collaborative shipping schedules with other companies or plan to do so. This can include looking for repeatable backhaul or continuous move opportunities across companies using for-hire or dedicated fleets. Companies often look at customer or supplier opportunities for collaboration, but others have succeeded in establishing new relationships with organizations that have complementary freight flows.

Have We Automated Routine Processes?

Best practice companies strive to create “hands free” or “lights out” processes for routine transportation orders, in which the system rates, routes, and tenders the freight without human intervention. This frees staff to focus on more difficult shipments and also creates time for them to analyze how to lower transportation costs further by changing service frequencies, increasing collaborative processes, and so on. In addition, some functions, such as tendering and appointment scheduling, can be automated for all shipments.

Have We Set Optimal Service Frequencies and Pricing?

For most companies, changing order behavior is one of the biggest cost-savings opportunities. Best practice leaders forge closer relationships with sales and customer service organizations to help these groups better understand the cost to serve the customer and alternatives for reducing costs. Ways to drive down costs include switching the customer order date, increasing the delivery window, changing the frequency of delivery, minimizing last-minute order changes, and combining orders (e.g., replenishment and promotional orders) into the same delivery date. Likewise, internal replenishment orders can be tagged with a lower priority to allow acceptance of more last-minute customer orders. Companies can use this same cost-to-serve analysis to create improved pricing structures for customers to ensure orders are profitable.

Carrier collaboration programs can help reduce tender turndown rates by 50%.

Have We Created a Carrier Collaboration Program?

Best practice leaders are implementing programs to become lower cost customers for carriers to serve. In return, they are receiving much lower rate increases (and even rate decreases). They are also able to secure capacity more consistently from their primary carriers, even during peak seasons and holiday weeks. In fact, companies adopting carrier-friendly programs often report 50% reductions in tender turndown rates.



Key elements of these programs include:

- Sharing rolling two- to three-week capacity forecasts with carriers
- Tendering earlier (two to four days in advance of a pickup)
- Reducing driver turnaround time at pickup and delivery locations (including at supplier or customer locations)
- Increasing hours of operations or drop yard use to provide more schedule flexibility to carriers
- And paying carriers faster (within one to three weeks of delivery) and more dependably

Have We Evaluated Self-invoicing?

About 20% of benchmarked companies practice self-invoicing or direct pay, in which they automatically calculate and submit carrier payments, leaving it up to the carrier to identify discrepancies and adjustments. Companies practicing self-invoicing report reductions in payment processing costs, fewer settlement disputes, lower manpower requirements, and more dependable payment to carriers. To support this, the transportation system must house audit-quality rates.

Do We Provide Universal Information Access?

The need to synchronize higher velocity, lower cost supply chains is creating demand for transportation-related information internally and with trading partners. This information helps the organization better source goods, plan inventory flow, smooth manufacturing and warehouse workload, and deliver high service levels to customers. Many companies are adopting browser-based transportation system interfaces to facilitate information access for internal stakeholders and even key customers. Shared information includes freight costs, service options, routing guides, shipment status, and scorecards.

Have We Implemented 360-degree Scorecarding?

Perhaps nowhere is the gap between best practice companies and their peers more noticeable than in transportation scorecarding. Leaders commonly scorecard carriers on a weekly or daily basis, and they incorporate the results of metrics such as on-time delivery and tender turndowns in both tactical load assignment and strategic procurement decisions. Frequent scorecarding and open sharing of the data with carriers enables these companies to identify and react to service slippages or improvements early on and thus deliver better service to their customers. Moreover, these firms are taking a 360-degree view and scorecarding their internal functions and trading partners on metrics that impact the carriers' ability to perform. These metrics may include dock dwell time, changed orders, insufficient documentation, and accessorial work for drivers. Some companies also ask their carriers to scorecard them on such items as preparation for delivery, accuracy of count, documentation quality, and payment dependability. Leaders create action plans based on the scorecarding and analytics results. For instance,

Leaders use 360-degree scorecards to drive continuous improvement.

customer service agents may be asked to convert customers with long dock delays to customer pickup.

Best Practice Use of Technology

Best practice leaders rely extensively on transportation management technology to help drive increased value for their enterprise. But technology projects don't always go smoothly. Here are the actions best practice leaders suggest when incorporating technology into a transportation improvement initiative:

- **Don't promote the project as "one and done."** Transportation management excellence is a journey with ever-changing requirements and improvement opportunities, and thus requires continual technology evolution. Develop a multi-year roadmap and technology framework that the company can tune and reprioritize as regulations, competitive environment, and customer requirements change. Then implement technology to support each step in the context of the technology framework. Consider buying technology on a modular or on-demand basis to coincide with roadmap steps.
- **Focus on change management.** Don't apply technology to your existing process and expect your problems to go away. The most successful transportation projects attack organizational inefficiencies, such as poor communication with customer service and sales or a decentralized transportation organization. A number of companies interviewed said they wished they had moved faster to centralize processes because it drove such significant benefits. It is critical to include other departments and decentralized transportation groups as early as possible in the transformation process to get their buy-in and incorporate their expertise.
- **Don't over-promise results or implementation speed.** Because transportation processes have touch points with so many internal and external organizations, success is not completely within the transportation department's control. Most companies have enough transportation savings and service improvement opportunities that they can conservatively justify technology investments. Results don't have to be in lower freight costs alone; justify projects based on increased information for other corporate functions and improved customer service levels.
- **Overstaff rather than under-staff the project team.** Some companies report suboptimal results from their initial transportation management system implementation because they asked project members to continue doing their existing jobs while managing the transportation technology implementation. Best practice is to have a few members dedicated to the initiative with assistance from a wider range of part-time team members. The transportation system will work best when the organization's domain expertise is captured and leveraged to configure the system's process workflow, optimization parameters, and business rules. External or vendor consultants that have proven track records with the specific transportation management system being implemented will also increase project success. Ask for reduced rates for any first-timers put on the project since they will be learning on your nickel.

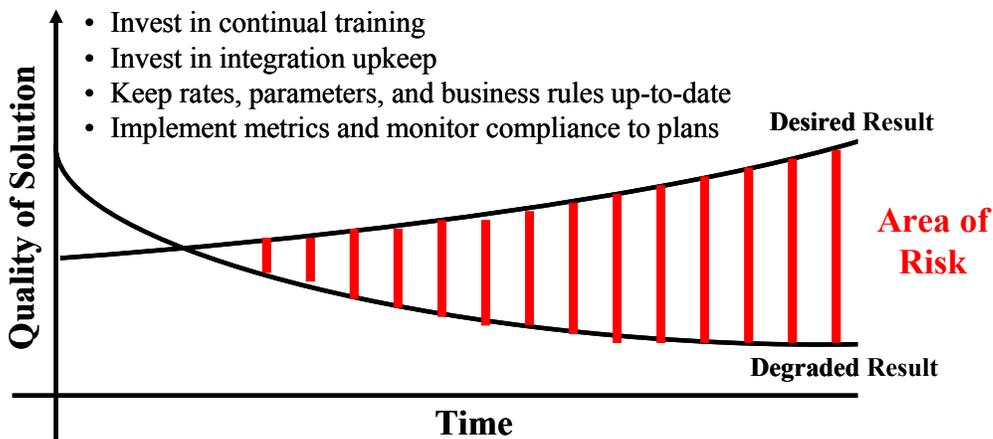
Don't apply technology to your existing process and expect your problems to go away.



- Train on a continual, as-needed basis.** It's important that daily users of the transportation system receive sufficient upfront training so they understand how the system "thinks." This will reduce frustration levels and increase acceptance of business process changes. However, this doesn't entail teaching users all the system's bells and whistles in the first stage. Incremental role-based training – training users on just the functions they will immediately use – is a better approach. It improves user retention of training material and increases their acceptance of the system because they are less likely to feel their world is flipping upside down. Additional features should be taught as part of a continuous improvement program, either by internal super users or the vendor. Some vendors offer periodic improvement audits in which they help identify additional functions within the current implementation that can be used to drive more value, as well as provide advice on how to tune system parameters and business rules for better results.
- Prevent backsliding.** Too many companies implement transportation management technology but don't invest in system upkeep, leading to degraded results. Figure 3 list key post-implementation tasks. In addition, don't let users slip back into their old transportation practices. Monitor compliance to the system-generated transportation plans and have users put in reason codes and explanations when they override them. This will not only improve compliance, but it will identify where the system's business rules or parameters should be changed to institutionalize a better choice made by the transportation staff. Incentives can be provided for those who identify new savings or productivity enhancements.

Incremental training and improvement audits will drive more value from technology.

Figure 3: Protecting the Quality of the Transportation Solution



Source: [AberdeenGroup](#), June 2005

- Celebrate the results.** As the historical last step in a waterfall process, many transportation organizations are not used to promoting their successes across the enterprise. Driving down costs, improving customer service, opening the door to more revenue opportunities, and increasing visibility and synchronization across internal and trading partner processes are worthy of celebration. Establish baseline metrics

from the old process and track the improvements on an ongoing basis. Ask software vendors to bake these measurements into the project plan and the technology. The results will become part of the business case for executing the next roadmap step.

Best Practice Leaders

Chapter 3 profiles seven best practice leaders. Each winner is recognized for unique excellence in a specific best practice (Table 2), though all employ multiple best practices in their transportation organization.

Table 2: Best Practice Case Studies

Featured Best Practice	Enterprise Winner
Carrier Collaboration	Orange Glo
Load Planning Center	Goodyear
Small Package and LTL Consolidation	LifeWay
Customer Service and Warehouse Synchronization	Consumer Goods Manufacturer
Inbound Cost Optimization	Ford
Customer-Centric Transportation	Unilever
Load Control Center	PPG Industries

Source: AberdeenGroup, June 2005



Chapter Three: Best Practice Case Studies

Orange Glo: Carrier Collaboration

Business Challenge

As the market for healthier cleaning supplies became increasingly competitive, Orange Glo sought to lower its fulfillment costs and increase service levels for customers. The challenge was that Orange Glo is a virtual manufacturer, using third-party manufacturers to produce its household cleaning products and three third-party warehouses to distribute them. Moreover, it is a multi-channel company, selling its products via a complex web of infomercials, direct mail, and online websites, as well as through department store, mass, food, and warehouse retail channels. Orange Glo processes about 90,000 orders a year and has a roughly \$10 million outbound freight spend.

A handful of specific factors were making transportation cost and service improvements difficult:

- Volume spikes were increasing Orange Glo’s total freight spend and making it harder to secure capacity with carriers.
- Each third-party warehouse shipped independently and selected carriers to move freight. Orange Glo was not able to take advantage of its aggregate transportation volume to secure lower rates.
- Carrier capacity and networks were not shared among the warehouses.
- The freight payment process was time-consuming and manual, and Orange Glo was paying carriers late, plus experiencing carrier overcharges and duplicate payments.

Strategy

Orange Glo’s strategy was to (1) establish a centralized transportation control center to manage outbound freight from the third-party warehouses to customers; (2) create an “ease of business” program for carriers to hold down rates and secure capacity; and (3)

Overview

Orange Glo International

Orange Glo is a family-run, mid-size company that sells household cleaning products like OxiClean through consumer direct and retail channels

Solution Provider: LeanLogistics

Deployed LeanLogistics’ On-Demand TMS™ (www.leanlogistics.com)

Business Challenge

Reduce transportation costs and increase on-time deliveries in an increasingly competitive market

Strategy

Create a centralized transportation control center and launch an “ease of business” program for carriers to hold down rates and secure capacity

Results Summary

- \$1 million savings in first eight months of using the on-demand system
- Steady transportation rates and excellent capacity availability
- Increased revenue due to transportation information

adopt a transportation management system that would be easy for its third-party warehouses and carriers to access, and would drive freight savings and service improvement for Orange Glo.

Technology Deployment

Orange Glo chose LeanLogistics' On-Demand TMS for its transportation management system. The on-demand solution and subscription pricing were in step with Orange Glo's virtual business model; on-demand solutions enable companies to pay for functionality as they use it rather than buy licensed software upfront. Also, because these solutions are hosted, they do not require hardware purchases or extra IT staffing.

Just as important, On-Demand TMS had the breadth of functionality Orange Glo was seeking, and about a third of the company's carriers were already connected to the LeanLogistics network. Orange Glo was able to set up a centralized transportation control center and implement the system in three months.

Process and Organizational Enhancements

The new transportation control center is in charge of freight procurement, planning, carrier execution, and freight payment. To make the most of the LeanLogistics system, the center focuses on a handful of key areas:

- **Managing by exception.** With the new system electronically tendering loads and capturing statuses from the carriers and third-party warehouses, the transportation control center can focus on the exceptions, have visibility to any delays that may be occurring, and often have time to reroute shipments or take other action before customer on-time deliveries are impacted. Carriers and the warehouse also have access to their orders on the system so they, too, can act more preemptively.
- **Marrying freight together.** The system is able to select the lowest-cost carrier automatically, using audit-quality rates. Moreover, the system's load consolidation capabilities have helped reduce the number of prepaid less-than-truckload shipments as a percentage of total prepaid shipments from roughly 70% to about 30%. This consolidation activity was helped by the transportation control center's focus on synchronizing orders with customers. For instance, it would work to put two customers on the same ship-cycle day so they could be served by a two-stop truckload rather than using less-than-truckload shipments on two different days.
- **Carrier collaboration.** To facilitate capacity availability and keep rates flat in a market in which industry-wide rates rose an average of 6% in 2004, Orange Glo focuses on process improvements with its carriers. This includes continually asking carriers how to become a lower-cost customer for them to serve. Orange Glo has created an "ease of business" program that includes:
 - Palletized, shrink-wrapped, well-labeled freight that is easy and fast to load and count;
 - Advanced tendering of loads, often two to four days in advance of the move;

Carrier collaboration has enabled Orange Glo to keep rates flat and secure capacity.



- A rolling, rough-cut transportation capacity plan sent to carriers two and a half weeks in advance; the capacity plan is developed from the sales forecast by rolling up demand by customer, cartons, shipping points, and weight into a capacity estimate;
 - Longer hours and drop trailers at the third-party warehouses to increase carrier pickup flexibility; and
 - Freight payment one week after delivery confirmation.
- **Continuous improvement.** By using the automation capabilities of On-Demand TMS planners spend less time on daily tactical load building and truck coverage. This lets them focus more on strategic carrier relationships and examine the system's rich data to find new opportunities to remove waste and cost from the process.

Lessons Learned

Orange Glo found that communicating to carriers and involving them in the transformation initiative are crucial to successful implementation and receiving timely carrier status information. The company also discovered that although Web-based communication is necessary for smaller carriers, EDI communications with large carriers increases their participation and compliance.

Results

Because of audit-quality rates, consolidation and mode shifting, and other improvements, Orange Glo was able to save \$1 million in the first eight months of using the on-demand system. This included discovering, within days of going live, a tariff discrepancy for which the carrier ended up reimbursing Orange Glo more than \$80,000.

The "ease of business" program has been successful in consistently securing capacity for Orange Glo, even in high-demand holiday weeks, and it has helped the company hold down carrier rates by being able to demonstrate that its practices make it a low-cost customer for carriers to serve.

The initiative not only saved \$1 million in the first eight months but also directly helped increase revenue.

The ease-of-business program, combined with the new transportation management system, also produced an unexpected benefit: It helped Orange Glo increase its revenues with a major retailer. The retailer was expressing displeasure with Orange Glo's store in-stock rate, blaming poor delivery performance. The management information supplied by On-Demand TMS let Orange Glo document that it was meeting delivery schedules with complete, on-time orders. As a result, it was able to convince the retailer that the reason its shelves were empty of Orange Glo products was that it wasn't ordering enough product. As a result, the retailer increased order quantities, and Orange Glo experienced a large jump in sales.

Overall, Orange Glo has found that having detailed, accurate data on transportation performance has let them "negotiate" improved retail scorecard ratings and created a more trusting relationship between the Orange Glo national account manager and the retail buyers.

Goodyear: Load Planning Center

Business Challenge

Goodyear manages thousands of shipments per day using hundreds of different carriers, including its own private fleet. Goodyear had a centralized carrier selection and rate negotiation group that generated paper routing guides, but transportation planning and execution were done by transportation planners at its plants and distribution centers.

As at many companies with decentralized operations, this created issues for Goodyear:

- Processes varied significantly from ship site to ship site; carriers and customers were frequently handled differently depending on the plant or warehouse. There was little visibility to transportation opportunities across the supply chain. Ship sites even a few miles from each other operated with no coordination.
- Consolidation expertise varied by planner, and since most consolidation had to be done manually, there often wasn't enough time to do a thorough job.
- Local service considerations, transit times, and customer preferences dictated which carrier would be used on the list, which could lead to different (and higher cost) carrier and routing selections than on the routing guide.
- Transportation spend analysis was done post-shipment on a monthly basis – there was no forward visibility to the cost impact of transportation decisions.

Strategy

Goodyear's goal was to create a business process that would generate better scheduling, visibility of transportation activities and costs, consistent service and quality, and improved transportation procurement.

To meet these objectives, Goodyear decided to establish a load planning center that would be run by Goodyear's lead logistics provider, Exel. Exel would use a full-scale transportation management system to create daily shipment plans that would be executed by the local Goodyear facilities.

Technology Deployment

Goodyear's business and IT staff developed a weighted 120-question RFQ that looked at functionality, training, and infrastructure capabilities of transportation management

Overview

The Goodyear Tire & Rubber Company

\$18 billion tiremaker with dozens of North American shipping locations servicing nearly 20,000 ship-to locations

Solution Provider: Manugistics/Exel

Deployed Manugistics' Transportation Management system (www.manugistics.com). Load planning center managed and operated by Exel (www.exel.com).

Business Challenge

A decentralized transportation organization was creating process inconsistencies, higher costs, and little understanding of the cost impact of transportation decisions

Strategy

Create a load planning center with Goodyear's third-party logistics provider

Results Summary

Annual contract freight savings of 3% or more; average trip weight for private fleet increased by 6-10%



software vendors. The selection team chose Manugistics' Transportation Management system because of its ability to meet the selection criteria, including strong freight payment, proven ERP and warehouse system integration capabilities, and a Manugistics services organization that could directly support Goodyear without needing to involve an external systems integrator.

Goodyear divided its implementation into four overlapping phases: (1) outbound shipments from distribution centers; (2) outbound shipments from plants; (3) automated freight payment, including some self-invoicing; and (4) vendor inbound raw materials.

The first shipments in phase one went live eight months after project approval. So far, Goodyear has rolled out 31 outbound plant and distribution center locations for planning and execution and 25 locations for freight payment. Vendor inbound pilots are occurring in 2005. The system is integrated with Goodyear's ERP system, receiving orders and sending back status data in real time. This provides complete enterprise visibility into all transportation moves.

Process and Organizational Enhancements

To help with acceptance of the new process, Goodyear had Exel locate the load planning center at Goodyear's central customer service location. In addition, each time a plant or distribution center is scheduled to switch over to the new process, the system runs in parallel until the location says it could ship off the load planning center's plan for five straight days. Goodyear has also implemented a small incentive plan to keep the planners motivated to find ways to make the system work better.

The transportation system contains a database of customer expectations and requirements, which are used to ensure each shipment follows the appropriate customer-specific rules. The system also provides costing of activities and shipment options. As a result, customer service and sales understand the cost to serve customers across various scenarios, giving them more credibility in service and pricing discussions. In addition, there are full audit trails for when off-plan shipment exceptions are requested. The Exel load planning center also acts as a single point of contact for carriers, the internal customer service group, and customers to sort out shipment questions and issues.

Lessons Learned

Change management became critical to project success. Functions such as purchasing, finance, and customer service had to buy into the new process. To help, the third-party logistics provider dedicated a full-time change management resource. Goodyear brought key field people into the load planning center during design and prototyping, and it sent the load planning center personnel out into the field. After implementing change management controls, Goodyear was able to bring up one site per month.

Results

Improved shipment consolidation, less expediting, and cross-facility planning have driven annual contract freight savings of 3% or more for Goodyear. In addition, the average trip weight for Goodyear's private fleet has increased 6% to 10%. Overall, establishing the load planning center has been a net zero cost to Goodyear, since the center was paid for through the shipment efficiencies generated by Exel using the Manugistics transportation system.

LifeWay: Small Package and LTL Consolidation

Business Challenge

LifeWay has more than doubled sales in less than a decade and has diversified its distribution channels beyond its own online catalogs and retail stores, including selling through retailers like Wal-Mart, Borders, and Barnes & Noble. It now ships more than 90 million items a year, accounting for nearly 2.3 million shipments. Rather than have separate fulfillment operations for each channel, LifeWay has chosen to conserve inventory costs and serve its channels from two distribution centers, one focused on date-sensitive publications like magazines, the other on books, videos, soft goods, etc.

Despite this growing complexity, LifeWay was still using a transportation process developed in 1996. The ERP system used the order weight to define an order's mode of transportation at the point of order entry, the dock workers decided how to route and rate the order, and then a manifesting system executed it. To supplement the process, complex routing rules were stored in spreadsheets and updated sporadically, while e-mails chased orders containing specific routing rules.

Strategy

As customer demands became increasingly dynamic (such as store-level requirements for lanes and weight breaks), it was clear the current process was breaking. LifeWay needed a better way to manage customer and carrier compliance. Because three-quarters of its shipments were small package, LifeWay also thought it might save money if it could figure out how to increase less-than-truckload shipments.

LifeWay decided it needed a new transportation management solution, one that would be flexible enough to handle transactions ranging in size from a rail car to a postcard and support multi-channel customers and their complex routing rules.

Technology Deployment

LifeWay chose iristaTransport because the system could simultaneously optimize across small package, less-than-truckload, and truckload modes, taking into account complex carrier rate structures and accessories, including fuel surcharges. It also supported ad hoc changes to complex carrier, customer, and company business rules.

Overview

LifeWay Christian Resources

Owned and operated by the Southern Baptist Convention, LifeWay is a \$428 million nonprofit publisher of religious material sold online as well as through its chain of 124 LifeWay stores and mass retailers

Solution Provider: Irista

Deployed Irista's transportation management system, iristaTransport (www.irista.com)

Business Challenge

Manage increasingly dynamic customer and carrier compliance requirements while making shipping more efficient in a parcel-intensive environment serving B2B and B2C

Strategy

Implement a transportation management system that supported dynamic compliance requirements and could do small package and less-than-truckload optimization

Results Summary

- 14% reduction in transportation costs
- 100% return on investment within 15 weeks of using the system



In addition, iristaTransport had carrier-compliant labeling and manifesting capabilities. Implementation was done over nine months, including business planning, system design, interfaces, customer and other business rule set up, testing, and training. Order data quality and business rules were enhanced as part of the implementation process.

Process and Organizational Enhancements

When iristaTransport began calculating routing and carrier instructions for orders, the logistics staff at LifeWay thought a mistake had occurred because the instructions were so different than what they had been executing. They examined the results and found iristaTransport had made the best choice in every case. For instance, the carrier mix on some lanes changed dramatically because fuel surcharges were being taken into account. And certain orders that would have always shipped by hundredweight according to the old weight-break rules were now going out more cost-effectively by less-than-truckload.

Lessons Learned

LifeWay came away with a number of lessons about how to manage the human element of transportation projects. Some advice:

1. Well-run projects are not led by individuals that wear multiple hats; a full-time project manager should be appointed.
2. Pick subject matter experts from across the organization, including customer service, and help them feel they are co-owners in the project and its success.
3. Keep solid metrics and benchmark against existing data. Effective benchmarking helps prioritize the issues that bubble up post-implementation, drives continuous process improvement, and enables wider recognition of success.

Results

In the first quarter of use, actual transportation costs dropped 14% per package compared with costs for the same period the year before. Absolute change was even greater, since these percentages didn't account for 2004 rate increases. There was a 100% return on investment within 15 weeks of the system being placed in production. These savings can be tied to a shift in small package volume now shipped by less-than-truckload (Table 3).

Table 3: How LifeWay Changed Its Shipment Mix to Drive Savings

Shipment Mix	Pre-Irista	Post-Irista	% Change
Small package	76%	55%	(21%)
Less-than-truckload	12%	34%	22%
Other	12%	11%	(1%)

Source: LifeWay, June 2005

Because iristaTransport automatically adhered to customer-specific rules, chargebacks have also decreased. In addition, because manually processed shipments were almost eliminated, LifeWay has been able to shift some dock workers to other areas.

Consumer Goods Manufacturer: Customer Service and Warehouse Synchronization

Business Challenge

In a price-competitive environment, a consumer goods company needed continued savings and customer service excellence from logistics. The company had already invested in technology for its order management and warehouse processes, including deploying laptops to its field sales force, using EDI to connect to customers, and building a highly automated warehouse that could pick over 90% of orders the same day they are dropped.

By comparison, its homegrown transportation system was rudimentary, using basic shipping rules rather than carrier-specific rates or dynamically optimized routes. Because of the lack of sophistication, freight costs had been rising uniformly with shipment volumes. As a result, the company identified transportation as a savings opportunity.

Strategy

The company designed a two-pronged strategy: First, select a transportation management system that could consolidate orders into cost-effective shipments. Second, rethink the current waterfall order capture-warehouse-transportation process to enable greater consolidation opportunity.

Technology Deployment

The IT and business groups defined 32 “must have” categories for the system, and Logility’s Voyager Transportation Planning & Management system was the only one that met all criteria. The company deployed the system in nine months with the help of a full-time Logility consultant. The most time-consuming tasks were building interfaces to homegrown systems and implementing the business process changes.

Process and Organizational Enhancements

Two primary process changes were made:

Stop the waterfall. The deployment team decided the waterfall order fulfillment process had to be changed. Under the existing process, the order management system would pass orders to the warehouse. The warehouse would do highly efficient, first in/first out (FIFO) order processing, and continually pass orders to the manifesting

Overview

Consumer Goods Manufacturer

Consumer goods manufacturer with five distribution centers; 1,300 shipments a day; and \$25 million annual freight spend

Solution Provider: Logility

Deployed Logility’s Voyager Transportation Planning & Management system (www.logility.com)

Business Challenge

In a price-competitive environment, the company needed savings from logistics. However, freight expenses had been rising uniformly with shipment volumes.

Strategy

Replace homegrown transportation system and re-engineer the order fulfillment process

Results Summary

Freight savings over baseline year:
\$1.7 million in first year of implementation
\$2.8 million in second year
\$3.7 million in third year



system for immediate transportation execution. Often, the warehouse could print a label and pick the order in an hour (orders were case and loose-pick quantities). But this process did not allow the transportation system time to scan multiple orders for consolidation opportunities.

The company knew order aggregation was a large opportunity because investigation had shown that retailers often had different buyers for each of the company's major product lines. Thus a customer like Wal-Mart might trigger four different less-than-truckload or small package orders, all going to the same Wal-Mart distribution center on the same day or week.

Rather than the warehouse being the master of the transportation process, transportation had to be put in charge.

To expand consolidation opportunities, the company realized the new transportation management system needed to learn about orders earlier in the process and dictate to the warehouse the sequence in which to work on orders. Under the redesigned process:

1. Customer orders are released to Logility's Voyager Transportation Planning & Management system after the order management system processes them.
2. The transportation system looks at all orders available to ship in a time window, evaluates them against various distribution strategies such as shipping direct or as a stop on a multi-stop truckload, and selects the shipping plan that meets all the constraints (including delivery requirements and customer carrier preferences) at the lowest overall cost.
3. The transportation system holds orders until it is time for the warehouse to process them and then passes the optimized shipment file with routing instructions to the warehouse system.
4. The warehouse system does wave planning.

This has led to much different treatment of certain orders. For instance, an order that would have traditionally gone less-than-truckload with a four-day transit time will be combined with other orders into a multi-stop truckload with a two-day transit time. As a result, the order won't drop to the warehouse for an additional two days, allowing more time for further order aggregation.

The transportation system's precise rating and routing capabilities also cause shipments to go on non-intuitive carriers to achieve the lowest cost. For instance, a 200-pound order may now go by small package while a 95-pound order may ship by less than truckload. Previously, any order less than 100 pounds would go by small package.

Teach new ordering behavior. The second major process change was to encourage new ordering behavior by working with the customer service department. Because the Logility system had what-if scenario playing capabilities, the transportation staff could examine the theoretical savings if all orders for a week were placed on Monday: How much more consolidation savings would there be? The team then investigated how to realize some of those potential savings by changing ordering behavior. Some of the findings:

- *Replenishment and promotional orders were not being synchronized.* For instance, a retail buyer may place replenishment orders for arrival to a distribution center on Monday and promotional orders for arrival to the same location on Tuesday. Cus-



tomer service was asked to contact the buyer and ask whether promotional orders could also be received on Monday.

- *Retail buyers did not synchronize their orders.* As mentioned previously, retail customers often had different buyers for each of the company's product lines. Customer service began running campaigns with customers to encourage buyers to order goods destined for the same retail distribution center on the same day.
- *Customer service lacked insight into how to balance fulfillment workload.* Before the transportation initiative, customer service was reactive to customer requests for delivery dates, treating all customers equally. On certain days, this led to order congestion in the warehouse and on the docks. Now, customer service representatives work with the transportation group to create shipment schedules for big customers according to their compliance policies. Smaller customers' delivery schedules are then built around those of the larger customers in a way that balances the fulfillment load.
- *Customer service lacked understanding of the cost of order changes.* Another key benefit that has helped drive continued savings is that the Logility system enables the company to track missed freight savings opportunities by customer. For instance, if the customer service department calls with a last-minute order change that causes a planned truckload shipment to go by less-than-truckload, the system will capture the cost difference. Data on these lost opportunities are shared with the customer service staff to encourage more efficient ordering and pricing behavior.

Lessons Learned

Taking a comprehensive view of the entire order fulfillment process and working closely with the other fulfillment functions were critical to driving business results. Looking back, the company would have more thoroughly trained more of its transportation staff up-front on the new system rather than focus on a few enthusiastic users. Because so much process reengineering was done, users needed to understand how the system was designed and how it "thinks" to ensure the process design maximized its capabilities.

Results

The company used its pre-Logility year as its baseline for benchmarking results. In the first year of using the Logility transportation system, the company saved \$1.7 million over the baseline year. In year two, the savings rose to \$2.8 million over baseline. And in year three, the results were \$3.7 million over baseline. The company uses the Logility system to track savings automatically against a baseline cost per order.

The company has also been able to reduce its cost per unit every year. Freight savings are primarily a result of mode shifting because of greater order consolidation and enhanced use of multi-stop and pooling opportunities. Other savings come from gaining specific data by lane and carrier, which has resulted in easier evaluation of new carriers and more effective renegotiation of rates with existing carriers.

Additional benefits have also occurred: The customer service department has complete visibility of order status and delivery plans to better serve customers. Delivery performance is captured and shared with carriers, resulting in better on-time delivery performance because carriers know they are being measured. The company has also been able to cut its expediting staff in half and has increased internal confidence of delivery dates.



Ford: Inbound Cost Optimization

Business Challenge

Ford North America was moving to a lean manufacturing operation, increasing the complexity of the logistics network it had to manage. The material logistics group needed to design more milk runs from suppliers and plan cross-dock activity to support a level flow of just-in-time material to the assembly operations. A key challenge was not only how to plan service frequencies and material flow to keep plants operating at a low logistics cost, but how to accurately forecast the logistics costs in light of this increasing complexity. Accurate budget forecasting at the part level was paramount to meeting the financial milestones for each new vehicle program.

Strategy

Ford’s vision was to take all plant, supplier, and part data and create a cost-optimized master logistics plan that would identify the right delivery quantity and frequency for each part to achieve the lowest possible cost. Ford’s current planning process relied on islands of optimization around certain parts or suppliers, but Ford now wanted to create a network-wide logistics plan.

Technology Deployment

To create a cost-optimized logistics plan, Ford realized it needed a planning system that would identify the optimal frequency of shipments for each part from each supplier. However, the systems Ford had evaluated required the user to input the desired frequency rather than treating frequency as an output.

Ford chose to help a technology vendor bring to market a new total cost optimization solution that simultaneously considers trailer and dock capacities, production schedules, target plant inventory levels, transportation and material handling costs, transit times, and other variables. The outputs are optimized delivery frequencies, pickup sequences and windows, load quantities, trailer cubing, and returnable container moves for each part.

Ford assisted the vendor on system specifications and began rolling out the solution two years after the project started. The Inbound Planner product from Viewlocity is now used to create cost-optimized plans for 100% of Ford’s domestic North American inbound freight. The logistics plans are then executed by Ford’s and its partners’

Overview

Ford Motor Company

Ford’s North American logistics network has approximately 21 vehicle assembly plants, 1,000 suppliers, and 20,000 SKUs

Solution Provider: Viewlocity

Deployed Viewlocity’s Inbound Planner (www.viewlocity.com)

Business Challenge

Support a lean manufacturing environment and provide accurate logistics budget forecasts for each part

Strategy

Create cost-optimized master plans for inbound shipments by determining the right quantity and delivery frequency for each part at the lowest possible cost

Results Summary

Saved 5% of total inbound freight costs



transportation execution systems. In total, 12 Ford planners use the Inbound Planner tool on a daily basis to create the master logistics plans and budgets for new vehicle programs as well as to make refinements to existing plans and budgets as programs change. Ford also plans to extend the solution to its international inbound freight.

Process and Organizational Enhancements

When implementing the Inbound Planner product, Ford's Material Planning & Logistics group realized it had to work closer with other departments to create more accurate plans and budgets and make midcourse adjustments. Even a small change in part dimensions, dock delivery locations, or plant storage capacity could have a significant impact on logistics costs.

Ford put in place new cross-functional procedures so that when a change was proposed by, say, the purchasing group or the internal logistics organization, the dollar impact can be quantified immediately and a revised logistics plan created. Planners also compare budgeted with actual costs after three months of full production on a vehicle program to measure budget forecast accuracy.

Ford uses Inbound Planner each day to create master logistics plans and budgets for new vehicle programs and make mid-course adjustments to existing programs.

Lessons Learned

Securing the correct data to feed Inbound Planner was a key challenge because the data was scattered in different Ford systems in different locations. Ford was able to automate the data collection process and found this was a key enabler to its ongoing, high-intensity use of the product. In general, companies need to work with their transportation technology vendor to understand which data must be available at project kick-off time and which data can be incorporated or improved over time to continually enhance the quality of solution. Ford also learned that group training sessions did not work as well as one-on-one training sessions because of the relative complexity and sophistication of Inbound Planner.

Results

Ford has been able to save 5% of its inbound freight costs by creating cost-optimized logistics plans for its just-in-time inbound freight. It has also significantly improved its budget accuracy for new vehicles. Because Ford has better forecasts and metrics on its cost per part, other groups such as procurement and internal logistics can now make better business decisions.

Freight cost savings has come primarily from three key areas:

1. Fewer transport miles and reduced less-than-truckload freight and air freight;
2. Increased trailer capacity utilization thanks to the Inbound Planner stowage model, which shows a 3-D picture of how each trailer load should be built; and
3. Increased utilization on return routes, lowering returnable part container costs.



Unilever: Customer-Centric Transportation

Business Challenge

Unilever Foods was looking to drive top-line sales growth by ensuring retailers' shelves were stocked, including heavily promoted items that can cause 100% spikes in transportation capacity requirements. For the transportation group, this meant figuring out how to improve on-time delivery performance to customers' requested arrival dates. The group was also being challenged to provide visibility of transportation activities to customers and internal departments, but its existing technology and processes did not support this. At the same time, the group was facing the freight capacity issues that roiled the U.S. market in 2004 and was at risk of having customer service levels slip.

Strategy

With a mostly truckload shipment model, the transportation group realized that the best way to drive value for the company was not to focus on better load optimization but to improve its freight execution processes across both centralized and decentralized transportation planning environments. But a key challenge was how to justify the cost of implementing new transportation execution technology if the gains were going to be service-oriented rather than cost-focused.

The solution was found in the on-demand model. The commercial client/server transportation system being used in some Unilever Foods locations had high maintenance costs and large upgrade costs. The transportation group realized that if it adopted an on-demand solution, the annual cash outlay would be similar to the current costs of staying on maintenance with the existing transportation management system and performing periodic upgrades.

Moreover, a Web-based architecture would let internal Unilever Foods departments and facilities easily access transportation plans and status to synchronize activities better and keep customers informed. It would also enable greater electronic communication with carriers in an affordable manner.

Technology Deployment

Unilever selected LeanLogistics and its On-Demand TMS™ because of the breadth of system functionality, robust project management services, and real-world transportation expertise. The first implementation stage was completed in 10 weeks across

Overview

Unilever

Unilever Foods division, a \$4.6 billion producer of food products with 15 North American plants and six distribution centers

Solution Provider: LeanLogistics

Deployed LeanLogistics' On-Demand TMS™ (www.leanlogistics.com)

Business Challenge

Drive top-line sales growth by improving customer service and reducing stockouts

Strategy

Service customers better by improving on-time delivery and increasing the availability of transportation status information in a decentralized transportation environment

Results Summary

Improved on-time delivery performance by 2.2 percentage points, increased carrier data completeness from 70% to 90%, reduced first-offer reject rate by 21 percentage points



three plants and six distribution centers. This stage duplicated Unilever Foods' existing load building and tendering process in On-Demand TMS, enabling the client/server solution to be deactivated. Because the first stage focused on switching technologies rather than reengineering processes, the transportation execution staff easily accepted the change. A continuous improvement approach is being used to roll out additional On-Demand TMS capabilities, such as dock appointment scheduling, freight payment, and carrier scorecards. Capacity planning and routing guide functionality are also being used extensively. In addition, the system is being expanded across additional locations.

Process and Organizational Enhancements

Unilever Foods made two decisions regarding organizational strategy: (1) it would focus on centralizing transportation information rather than centralizing people or activities, and (2) it would take a “pull” versus “push” approach to advanced functionality. This meant showing people what was possible with the on-demand system, then letting plant managers and transportation staff members voluntarily step up to show other facilities what was possible.

Unilever's approach was to centralize transportation information rather than centralize people or activities.

This organic “discovery” process created innovation and buy-in across the decentralized transportation organization. In one case, for instance, a distribution manager was responsible for establishing a network for a new product line, which was going to be distributed by third-party logistics partners. The manager mandated that those partners also use the LeanLogistics system. This would enable the Unilever Foods inventory planners to have visibility of the shipment process, including being able to understand transit time deviations that would impact shelf life.

To improve on-time delivery, Unilever Foods knew it had to better synchronize plans and activities across internal operations and with carriers. To do so, it adopted:

- **Online appointment scheduling.** The distribution centers had not been connected to the client/server transportation system, so they had no knowledge of an inbound order until a carrier called them for an appointment, which they then scheduled off spreadsheets or the third-party logistics provider's warehouse management system. Now all dock appointments are made through the LeanLogistics system so all stakeholders can see both the inbound and outbound scheduled appointments. As a result, the group responsible for stock transfers between plants and distribution centers can see whether the inbound transfer will make the outbound scheduled move or whether other action is needed to ensure on-time delivery to the customer. In addition, by having visibility to the real shipment dates, planners are discovering they need less just-in-case inventory.
- **Proactive order management and recovery.** Customer service specialists had to continually scan their work environment for potential service disruptions and call the local transportation departments to figure out shipment status. Many problems went unnoticed until it was too late to resolve them. With a system that now provides cross-network visibility and alerting, issues are more proactively identified. The system's issue tracking and resolution capabilities enable collaborative resolution externally with carriers and internally across departments. Moreover, problems and reso-



lution trails are centrally captured, so Unilever Foods has the opportunity to identify systemic problems and share best practice resolution strategies.

- **Capacity forecast sharing with carriers.** In the consumer packaged goods business, a distribution center's shipment volumes can spike 100% during promotional campaigns. In a capacity-constrained freight environment, this creates enormous risk that products will not make it to the shelves on time. Unilever Foods decided to begin converting product forecasts into weekly shipment capacity forecasts so it could understand capacity variability and work with carriers to ensure smooth execution.

However, this turned out to be problematic because the sales groups and supply chain planners managed at a monthly level, not a weekly level. To solve this, the central transportation procurement group created a new staff position. This position was responsible for extracting promotional volume and effective dates from the corporate trade promotion planning system and using the data to forecast freight requirements by region and week. As a result, the transportation group was able to identify a handful of extreme spike periods over the ensuing months and work with carriers in advance to ensure capacity availability and high on-time delivery performance for those promotions. In addition, the group began sharing a rolling 4- to 6-week tactical capacity forecast with carriers. Together with other process improvements, these actions have reduced first-offer reject rate for tenders from 30% to 9%.

- **Carrier allocation management.** Because Unilever Foods negotiates favorable rates based on freight volumes, the transportation group actively plans, monitors, and adjusts carrier allocations and capacity commitments. The load planning process itself uses the carrier allocation directions as the top "rule" for carrier selection to ensure that the company tenders according to its carrier agreements. With the central information repository, the company is also able to prove to carriers with higher tender turndown rates that Unilever has been holding up its side of the agreement and that any volume shortfall was self-inflicted by the carrier. This, in turn, helps with rate negotiations, encourages higher tender acceptance rates, and informs central transportation procurement where changes are needed.

Lessons Learned

Unilever Foods had never used on-demand, hosted software for an operational activity. The transportation group had to identify IT champions to help it overcome internal resistance (common in many firms) to allowing transactions to reside outside the corporate firewall. Also, the project team learned to plan "breathers" between project stages to allow users to absorb and begin to innovate with functional enhancements rather than rush into the next stage.

Results

Among many benefits, three that are focused on the customer stand out: Unilever Foods has improved its on-time delivery dramatically for the lowest-performing plants and held constant or slightly improved performance for other facilities with less fire-fighting in a capacity-challenged environment. Second, it is able to keep customers better informed about requested arrival date exceptions, improving customer satisfaction. Third, it's able to proactively plan for promotional activity, ensuring better on-shelf availability.

PPG Industries: Load Control Center

Business Challenge

PPG faces numerous business pressures because of the diverse commodities it ships; these pressures include cost management, delivery timeliness, and securing transportation capacity for products that use wide-ranging modes of transportation and often need special equipment. Continued business growth and the addition of distribution channels were making the transportation process even more challenging. PPG needed a transportation management system that would support this complexity.

Strategy

PPG operated a load control center, which for more than a decade had planned and executed shipments for 35 North American manufacturing plants and 16 distribution centers. This model drove process consistency, enabled more dedicated fleet usage because capacity could be used across facilities, and simplified interactions for carriers by giving them one point of contact.

The load control center was originally managed using a homegrown transportation system, which required two IT employees to maintain and enhance. Nonetheless, the internal system was not able to keep up with the changing nature of supply chain requirements and the increasingly important role the transportation system played as an information and synchronization hub.

PPG wanted to maintain the load control center but power it with more modern technology that would improve load consolidation and carrier interactions. At the same time, it didn't want the load control center to burden the IT staff. As a result, PPG chose to pursue an on-demand model.

Technology Deployment

PPG selected Manhattan Associates' Transportation Management system because of its functionality, viability, and on-demand capability.

The system automatically captures the majority of PPG orders via interfaces to the company's multiple order management systems, while PPG users enter the rest of the orders via the transportation system's

Overview

PPG Industries

\$10 billion diversified manufacturer producing paints and other coatings, glass, and specialty chemicals; also runs roughly 250 paint retail centers in the U.S.

Solution Provider: Manhattan Associates

Deployed Manhattan Associates' Transportation Management system in an on-demand model (www.manh.com)

Business Challenge

Manage business growth and the addition of new distribution channels in a complex shipment environment using many modes of transportation and equipment types

Strategy

Consolidate loads across 35 plants and 16 distribution centers in North America using an on-demand load control center

Results Summary

\$1 million to \$2 million annual freight savings; typical per-load savings of \$40-\$70 for motor freight; 50% increase in shipments per planner



browser interface. The transportation system consolidates orders into shipments and determines the best mode of transportation. From this point, the system enables the load control center to collaborate with a range of carriers via browser or EDI to determine the most suitable and cost-effective carrier for each shipment. This includes allocating loads to meet contractual commitments.

The load control center considers more than 100 carriers, including giving its dedicated fleet providers first right of refusal via an automated tendering process. This has helped PPG's dedicated carriers select the loads most attractive to their business to maximize asset utilization. If an air shipment is needed, the system's Capacity Finder functionality conducts a reverse auction to secure the most efficient route and air carrier.

Process and Organizational Enhancements

The on-demand system has spurred a number of process improvements:

- **Greater use of the transportation system outside the load control center.** About 15 load control center associates use the system for daily planning and execution activities. Another 15 users at headquarters access the system to retrieve information or run reports; and 20 users in smaller locations enter orders through the order-entry interface. Status data from the system is also sent to PPG's data warehouse to support querying and reporting by each business unit.
- **Improved planner productivity and consolidation effectiveness.** PPG has enhanced freight savings and planner productivity by leveraging the system's automated consolidation and automated sequential tendering capabilities. The company has seen a 50% increase in shipments handled per planner.
- **Better carrier collaboration.** PPG has implemented carrier scorecards in the on-demand system. Carriers can access the scorecards via their browsers to view their current performance metrics, which are updated daily, and their performance for the past year. Metrics include on-time pickup and delivery, load acceptance, and timeliness of status messages. Carriers also see payment status. In addition, PPG measures its internal speed of loading or unloading drivers at problematic locations to improve its efficiencies for carriers. Its next step is to incorporate a dock scheduling process.

Lessons Learned

As a veteran load control center operator, PPG has learned a number of lessons. For example, when moving to a load control center, heavily involve the shipping locations. Arrange for load control center staff to spend face-to-face time at the local facilities to get their buy-in and insights. Make gradual changes to shipping patterns and consolidation rather than dramatically reengineer processes that may not be fully understood. Focus on consolidating smaller shipments across business units since it drives large savings.

Results

Since implementing Manhattan Associates' system, PPG has achieved \$1 million to \$2 million in annual freight savings, including a typical per-load savings of \$40 to \$70 for motor freight. Thanks to better plans and capacity management with carriers, PPG has seen a 10% to 15% reduction in expedited ground shipment spend. Better consolidation and reverse auctions for air shipments have also cut air freight spend by 20% to 25%.



Author Profile

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Beth Enslow is vice president of enterprise research for AberdeenGroup. Enslow benchmarks and advises companies on how they can reshape their supply chain, global trade, and transportation processes and technology strategies to drive business value.

Prior to joining AberdeenGroup, Enslow was senior vice president of strategic development for Descartes Systems Group, a global supply chain software company. At Descartes, she led initiatives in such areas as RFID, wireless-enabled delivery, and inventory performance management. Before that, Enslow was research director at Gartner, Inc., where she ran its supply chain planning and logistics advisory practice on a global basis. She has worked for a number of other research and consulting organizations, including the Conference Board, a leading business think tank and economic forecasting organization. Enslow is also a lecturer on transportation technology at the Center for Supply Chain and Logistics Management at York University's Schulich School of Business in Toronto.



Appendix A: Related Aberdeen Research & Tools

Related AberdeenGroup research that forms a companion or reference to this report include:

- *The New Transportation Best Practice: Creating a “Carrier Friendly” Program to Gain Control of Rates and Capacity* (April 2005)
- *New Strategies for Global Trade Management* (March 2005)
- *Top Fulfillment Strategies for Midsize Enterprises* (December 2004)
- *New Strategies for Transportation Management* (September 2004)

Information on these and any other AberdeenGroup publications can be found at www.Aberdeen.com.



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