

# WAREHOUSING FORUM

*The industry publication dedicated to helping warehouse managers and their bosses improve productivity and manage more profitably with tips, comments and articles written by practicing professionals.*

VOLUME 23 • NUMBER 9 • AUGUST 2008

## *In Praise Of Agility*

Two key words dominate the field of warehousing at the beginning of the 21st century: Lean and agile. Lean warehousing has been the subject of considerable study, but relatively little attention has been given to the equally important topic of agility.

Agility is nimbleness. It is the ability to make small deliveries on a “just in time” basis. It is the reduction of order cycle time, as well as the optimization of inventory.

### ***Conflicts and Trade-Offs***

Agility can conflict with both lean and green. For example, frequent JIT (just in time) deliveries will result in increased transportation and order filling costs. They require intensive use of transportation which leads to an increase in fuel consumption and pollution. At the same time, JIT offers significant economies for the manufacturer or distributor receiving the shipments bringing about a reduction in total cost of supply chain management. The green issue must be addressed through technological advances, such as the development and use of hybrid powered delivery trucks and cleaner fuel.

### ***The Transportation Issue***

Agility is the primary element in transport cost control. It is no accident that Southwest Airlines, the most successful airline in the United States, offers the shortest turnaround time and the highest use of aircraft among all airlines. If the company utilized its transportation assets in the same fashion as its competition, a significant increase in airplanes and employees would be necessary. In the process of developing its operating procedures, Southwest benchmarked pit crews at the Indianapolis 500 automobile race. The importance of quick turnaround at the airport gates is understood by all Southwest employees. The same focus, which has been adapted for containerized shipping can and should be utilized for all modes of transportation. During a spring 2008 trip, we inspected a marine terminal in Yokohama that handled one marine container every minute. Turnaround time for the vessel at port now is measured in hours, not the days once spent in port as cargo was loaded and unloaded.

Unfortunately, rail and highway transportation lag in such improvements. Congestion, decaying infrastructure, and lack of management attention have resulted in poor utilization of trailer and railway car assets. Many shippers and receivers use trailers as temporary warehouses, wasting transportation assets and passing along the cost to all

who use their services. Although trucking firms have a fee for detention of trailers, it is not applied rigorously.

Congestion and decay are major contributors to poor utilization. During the spring 2008 floods in the Midwest, regional rail transport was crippled by high water. The floods closed parts of the interstate highway system and delayed trucking operations. While congestion in Southern California ports received wide publicity, we need to recognize that similar problems are caused by inadequate highways, road construction, and a continuing increase in the number of vehicles on the road.

Long-haul trucking has one of the highest employee turnover rates of any occupation, and the current shortage of truck drivers is widely recognized. Two factors frustrate truck drivers. Many are paid by the mile, in effect a piecework compensation. When they are unreasonably delayed by the loading or unloading process, or stopped by a tangle of traffic on the highway, their pay is reduced by conditions that are beyond their control.

Warehouse operators have some ability to alleviate those conditions. Application of technology and improved practices can make your warehouse a “trucker friendly” destination. To avoid delays, the best warehouse operators keep a time clock to show when each driver enters and leaves. One distribution center maintains a maximum time limit of two hours for every truck driver who enters the property, with any delay beyond this time limit investigated by management. Many warehouses with heavy truck load volume eliminate delay through the use of the “drop and hook” procedure, in which drivers drop the trailer in the yard, enabling them to be moved to the warehouse dock at a later time. While this procedure does not address equipment utilization, it does eliminate driver time loss. Technology is available to roll the cargo from truck bed to dock floor in just a few seconds, which virtually eliminates any delay at the warehouse.

### ***Outsourcing and Agility***

Warehousing is one of many supply-chain management functions that can be outsourced. Those who seek outsourced services appreciate the ability to enjoy one stop shopping for a variety of logistics services. Some warehousing service firms offer a broad array of value added services, such as delivery, inbound transport, packaging, staffing, and document management. The combination of packaging and warehousing has long been rec-

ognized as a way to save money, by moving bulk product close to destination and offering a variety of private label packages for delivery to customers. The marriage of warehousing and transportation is even older, with execution of JIT requiring coordination of warehousing and precisely timed delivery. The relatively new offering of staffing enables the warehouse provider to become a low-tech source of skilled labor, as well as a high-tech provider of storage and handling. Document management, or records storage, is a specialty that only occasionally is offered by traditional warehousing companies. It requires extreme agility, since the provider is expected to retrieve individual documents quickly and accurately.

In considering value added services, remember that a convergence is offered by the newest of information systems. For example, not long ago, a traveler would carry a computer, a music player, a camera, and a cell phone. Now a cell phone contains many of the features of all four. Similarly, the warehouse operator can allow selected clients to look into the warehouse management system, or to obtain real-time information on the status of shipments. The blending of technologies can take place in warehousing, just as in other products and services.

Warehouse operators can be buyers, as well as sellers of outsourced services. A growing number of warehousing professionals are purchasing IT and customer service support in India, the Philippines, and other overseas locations. A software problem arising on Tuesday afternoon may be solved before morning, by a provider who is 12 time zones away.

### ***Keeping It Simple***

Complexity is the enemy of agility. How many SKUs on your inventory list are items that are long dead? How many more are barely alive, having had little or no activity during the past several years? Since product proliferation is one source of complexity, trimming the product line is an ongoing necessity.

How many published procedures either are obsolete or in need of revision? How many KPIs currently reported are irrelevant? Complexity is an outgrowth of maturity. It is a sign that the business is not green and growing, but ripe and rotting. Everything in the warehouse procedure should be related closely to current corporate goals.

Warehouse operators are in a good position to identify needless complexity, and to recommend ways to promote simplicity, without alienating customers.

### ***Agility and DC Location***

Since deregulation of transportation in the 1980s, most new distribution center locations are served by only one mode of transportation -- motor freight. Recent developments are causing operators to recognize the advantages of multi modal transportation service. Escalating fuel prices have generated interest in rail transport. While rail can be used by placing trailers on flat cars (TOFC or piggyback), the existence of a rail siding creates increased flexibility for the shipper. Companies with critical delivery requirements may seek the capability of air freight, or even the existence of a helicopter pad. During the 1980's, Airborne Express purchased a retired Air Force base at Wilmington, Ohio, and developed 2,000,000 square feet

of new warehousing from shippers who recognized the advantage of keeping an inventory at the air freight hub.

### ***Creating More Responsive Service***

Not long ago, most warehouses provided service five days per week, and eight hours per day. The new century has seen movement toward a 24/7 schedule. The stimulus is increased responsiveness to a global clientele. At 8 PM in Hong Kong, a customer expects to reach a supplier who is half a world away and half a day earlier.

Increased sourcing in the Orient has added to the length and complexity of the supply chain, creating opportunities for the warehouse operator. One apparel retailer created a consolidation center in China, in order to inspect every garment before shipment to the US. Other importers have established deconsolidation centers at ports of entry. The goal of both remote centers is to control quality close to the source, and to remove transportation bottlenecks.

Current concerns about escalating fuel costs are likely to stimulate the establishment of distribution centers close to the marketplace. This enables bulk transportation to be used over long distances, with much more expensive parcel and LTL delivery used only for the last few miles.

The agile operator emphasizes quality, as well as responsiveness. Has the error rate been reduced? Is an out-of-stock condition able to be corrected quickly?

Since nearly every company promises good service and high quality, the critical question to ask is: "How do you know?" The agile warehouse operator knows exactly how clients perceive the service, and gathers such information continuously and frequently. While deterioration of service never should be a surprise, it often is. Warehousing is a relationship business, based on trust and candor. Lack of effective communication breeds mistrust. The goal of communication between warehouse provider and client is centered on the answers to this question: "How are we doing, lately?"

### ***The Next Frontier In Logistics***

During the 1893 Columbian Exposition in Chicago, an American historian delivered a widely circulated paper: "The Significance of the Frontier in American History."

He noted that two centuries of movement toward a western frontier had ended, and the very notion of a frontier would soon become obsolete. However, the frontier spirit did not disappear. It simply changed focus from a westward migration, to the development of new technology. While Americans have no monopoly on new frontiers, many of the breakthroughs in logistics technology have occurred close to home. They include high tech devices, such as warehouse management systems, as well as low-tech progress, such as the standardization of pallet sizing. Robotics have migrated from the showcase, to practical application in some warehouses. Voice recognition systems not only have improved accuracy of order selection, but made it also faster and easier than it was.

Agility has been accompanied by an entrepreneurial spirit that constantly is seeking the next frontier. The British scientist Charles Darwin provided us with the best testament to the power of agility: "It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change."

# KEN'S COMMENTS

## ***Hazmat-- Problem Or Opportunity?***



Most distributors and logistics service providers are terrified of hazardous materials. The consequences of mishandling are enormous. A variety of inspectors from federal and local jurisdictions, as well as insurance companies, are eager to provide advice on best practices.

Yet, some logistics managers have learned to make lemonade out of the hazmat lemons. Hazmat products are essential parts of today's commerce, and those distributors who learn how to handle them safely have a unique opportunity to profit from this somewhat exotic specialty.

Have you considered making hazmat warehousing a niche service that separates your company from nearly all of your competitors?



## ***The Power Of Happiness***

We admire those who enjoy going to work. They like their colleagues, offer their help, take on extra tasks, and concentrate on the positive aspects of their jobs.

At the same time, we pity those who hate their jobs and the people with whom they work. Unhappy workers lead to unhappy customers. Nearly all of us have had the unpleasant experience of dealing with a service person who

clearly does not enjoy giving service. The attitudes of cranky workers are spread like a contagious disease, but those who enjoy their jobs can counteract those who are negative.

The founder of Southwest Airlines believed that service people need to have a good sense of humor. Because of his belief, the company includes a humor test in its hiring procedures, giving it a unique advantage.

Have you tested the attitudes of your warehouse workers? If you suspect that some of your staff members hate their jobs, you will do everyone a favor by helping them find a new place in which to work.



## ***When Is Bigger Better?***

Results of a study by Armstrong & Associates show that acquisition is a risky business. Large acquisitions often are a prescription for lower profitability.

Is intensity, commitment, and flexibility lost as the logistics service provider grows, or does increased size improve the product, because it offers better information technology, global coverage, and standardization process? Armstrong asks the question, but does not clearly answer it. He demonstrates that companies with less than \$250 million in revenue have significantly higher margins than those with more than \$1 billion. However, those having between \$500 million and 1 billion had even higher revenues than those with less than \$250 million. The profit leaders with more than \$1 billion in revenue, Expeditors and Caterpillar, have grown organically, rather than by acquisition. Large acquisitions often are a prescription for lower profitability.

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# WAREHOUSING TIPS

## ***Measuring Muda***

Muda is the Japanese word for waste. Because it sounds so ugly, we prefer it to the English word. There are five kinds of muda closely associated with warehousing: transportation, over processing, needless motion, errors, and poor use of people.

Transportation is a vital and expensive part of supply chain management, and it is easily and frequently mismanaged. Failure to find the shortest route, the best loading sequence, or the best common carrier will result in needless expense.

Over processing is the provision of services that the customer does not need, or perhaps does not even want. Frequent customer surveys are the best way to be sure that your management is meeting customer needs, but not exceeding them.

Poor inventory management, ineffective storage layouts, and poor scheduling can cause warehouse workers to move in circles rather than work efficiently. Errors al-

ways are expensive, because an improperly done job must be done over and frequent errors result in lost customers.

Finally, people, the most valuable resource in warehousing, may leave your company to find a more satisfying job, if they are not motivated properly. Excessive employee turnover is both wasteful and expensive.



## ***Internal Route Optimization***

Travel is the most expensive part of order-picking. Controlling miles traveled always has been a critical part of managing delivery costs but never more so than now, with fuel priced at record levels.

That is why the optimization of travel routes is a critical part of both warehouse management systems (WMS) and transportation management systems (TMS). Within the warehouse, the items picked most frequently should be stored close to the docks, with the slowest moving merchandise in the most remote areas of the facility. Similar logic is used when using TMS to select delivery routes. If you are not using computer software for these purposes, you are missing a major opportunity to control costs.

## Intermodalism

By David Letteney, *World Wide Shipping*, April 2008, pg. 11.

Included in the article is a positive commentary about the heavily criticized report of the National Surface Transportation Policy and Revenue Study Commission (NSTPRSC).

Because three members of the commission, including Mary Peters, Secretary of Transportation, dissented and refused to attend the presentation ceremony, the report has been criticized in the press. The author pointed out that the most important recommendation of the report is to consolidate 108 current Department of Transportation programs into the following ten:

- Rebuilding America; a national asset management program
- Freight transportation; a program to enhance US competitiveness
- Congestion relief
- A national safe mobility program
- Connecting America; a national access program for small towns and rural areas
- Intercity passenger rail; a program to serve high-growth areas
- Environmental stewardship
- Energy security
- Federal lands; a program for providing federal access
- A new transportation research program

While there is no chance of enactment of these programs under the current administration, some of them are likely to occur after the change of administration, next year.

## Pallet Basics

By Corinne Kator, *Modern Materials Handling*, May 2008, pg. 28.

Described in this concise primer about pallets are the variations in wooden pallet design, as well as the options of plastic, metal, corrugated paperboard, and specialized wood. A pallet lingo section provides a short glossary of terms. This article is an excellent training tool for those seeking knowledge about materials handling.

## How To Get America Moving Again

By Scott Davis, *Supply Chain Quarterly*, Q2, 2008, pg.14.

This inspiring article by the CEO of UPS includes an action plan to reduce congestion and improve the infrastructure. It includes the following initiatives:

- Create a rational transportation strategy
- Support user based taxes and fees
- Use existing capacity more efficiently

## And the winner is.... EVERYONE

By Lisa Harrington, *Inbound Logistics*, May 08, pg. 39.

Although warehouse labor constitutes about 65% of most operating budgets, almost 20% of warehouse workers are actively disengaged from the job, doing just enough work to get by. Four steps to change the situation are suggested in this article: measure productivity, set labor standards, implement gain sharing programs, and train workers for results. One service provider found that the radio frequency scanner gun can be a time measurement device. Another service provider experienced a 20% productivity increase after establishing labor standards. For gain sharing, one provider established a bonus program for three S's: safety, sanitation, and security performance. Another maintains an open book approach to company finances, with an employee bonus plan based on financial performance. One provider has developed an internal college for training, retrofitting an old building into classrooms. A local university helps to develop and deliver training programs.

## How To Choose The Right Lift Truck

*Material Handling Management*, June 2008, pg. 25

This unsigned article, contributed by Gross & Associates, is an effective primer on lift truck procurement. In it, both indoor and outdoor trucks are addressed. An essay on price versus efficiency is included, as well as a concise review of model options.

## Enabling Efficient Charge Back Management

A 2007 white paper, released by SAP Group.

Reviewed in this 10-page paper is one of the most frustrating challenges for logistics service providers, the ability of a retailer or distributor to create a charge back penalty for errors or discrepancies. Recommended in the paper is the use of a software system to rationalize and control the process. The result is some automation of the process, together with a clear explanation of the reasons for the charge back. As a result, administrative costs and disputes will be reduced greatly. While many service providers would prefer complete elimination of charge backs, the authors of the paper suggest that it is not likely to happen.

## The Choice Is Voice

By David Maloney, *DC Velocity*, July 2008, pg. 89.

The author presented a series of case studies of successful application of voice technology. Described in each case is the work of a different provider, eliminating vendor bias in the article. Anyone considering the use of voice technology should read this article.