

Logistics Performance: The Total Impact of Pallets

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INTRODUCTION

The need for excellence in logistics performance has never been greater. In today's competitive economic environment, no less than corporate survival is at stake. Speed, reliability and cost are equally critical performance criteria that drive logistics executives every day in their quest to be successful.

Much energy has been focused in recent years on the application of information technology to improve logistics performance. In the late 1990's it was the Y2K ERP craze, then the dot-com B2B hype, then came trading exchanges, and now all the "collaboration" software tools...all with mixed (at best) results. This focus of attention and resources on information technology solutions has contributed to a lack of progress in improving the physical distribution aspects of logistics processes. One such area is materials handling, and specifically pallets.

Pallets have been the "tool of choice" for materials handling of goods in a wide array of industry supply chains for many years. The book *Pallets: A North American Perspective*, by Rick LeBlanc and Stewart Richardson, published in August, 2003, gives a comprehensive overview of the history of pallets, and some interesting perspective on current issues and future trends. A significant point made in the book is that the development of the palletized unit load years ago resulted in dramatic productivity gains in materials handling. However, as is always the case in a competitive business environment, the question is "what have you done for me lately"?

THE PALLET DILEMMA

The productivity value impact of pallets applies to two basic areas of operations: internal materials handling, and the movement of goods between trading partners. Standardization of pallet design contributes to effective materials handling between trading partners, as well as efficient application of automation throughout various supply chains. These dynamics have led to the development and widespread use of standardized pallet designs. One such standard is the GMA (Grocery Manufacturers of America) 48"x40", 4-way pallet used throughout the food and consumer products supply chains in the domestic US. A pallet built to the GMA guideline specifications has significant load-bearing capabilities, is rackable, reusable and repairable, resulting in a relatively long life cycle. It also comes with a substantial price tag, and as a result is a valuable asset requiring effective management and control processes. Unfortunately, trading partners in the grocery and other supply chains that have adopted the GMA pallet standard, have struggled mightily with the charge of managing this asset across company boundaries. This is the **pallet dilemma**.

MANAGING THE PALLET ASSET

In the food and consumer products supply chains in the domestic US, the management process adopted by most companies with the advent of the GMA pallet was pallet exchange. Simply put, as product is delivered on pallets, empty pallets are "exchanged" for the pallets under load. Receiving docks are expected to have empty pallets of like design in good condition readily available for the truck driver to take, which the driver can then "exchange" when he picks up his next palletized shipment. This process allows for the "sharing" of the life cycle value of the pallet among trading partners that use the pallet in their operations. As everyone knows who has experience with pallet exchange, the process is difficult to administer and creates an adversarial environment that strains relationships between trading partners...and carriers have been stuck squarely in the middle. This process has become a significant cost issue for trucking companies, and as a result freight costs have increased. Pallet exchange costs have become so significant for many carriers that they have had to take extreme measures to deal with the situation. Many carriers have resorted to charging pallet exchange fees, and some are declining business that requires pallet exchange! As companies involved with the exchange process have tried to reduce their cost exposure, pallet quality has suffered. The introduction of substandard and poorly repaired pallets into the "white wood pool" has resulted in severe problems with product damage, inefficient operations, breakdowns of automated systems, safety concerns, and as previously mentioned, bad feelings...

In the early 1990's a new management process was introduced into these supply chains in the domestic US: the pallet rental model. The rental model eliminates pallet exchange, thus removing the role of the carrier. This gets the trucking company out of the pallet business, reducing freight costs. In the rental model, the pallets are owned and maintained by a 3rd party, which improves pallet quali-

ty. Improved pallet quality mitigates the product damage and other negative effects of the poor quality in the white wood pool. To-date one company, CHEP USA, has been successful with implementing the rental model in the domestic US, and has captured significant share of the market. However there are significant concerns with this concept. Rental cost-per-trip is significant for shippers, and has caused many companies to decline the service and continue with the exchange program. Efforts by other rental companies to enter the market have failed to gain significant share to-date, resulting in a lack of competitive alternatives. This lack of alternatives also has resulted in a "single supplier" environment, which increases the risk and impact of supply problems. This environment also results in an unfavorable leverage position for cost management. Managing the rental process has been an administrative challenge for many participants, and managing possession and recovery of the rental pallets is a major challenge for the rental companies.

Other management models have been conceived and tried, with limited success to-date. Generally these models involve 3rd party pallet-tracking services that utilize web-based data gathering and reporting processes, and some involve pallet/asset recovery services. The basic assumption driving these 3rd party models is a "shipper-owner" concept, with "recovery and re-use" the goal to contain the cost-per-trip.

INDUSTRY INITIATIVES

Several industry studies have been conducted over the years to assess the pallet situation and make recommendations for improvements. In 1992 the GMA Pallet Subcommittee published a report that discussed the problems of the exchange process and the impacts on manufacturers, distributors/retailers and trucking companies. This report, "**Recommendations on the Grocery Industry Pallet System**", focused on pallet design specifications and performance requirements, recommended consideration of 3rd party service companies (rental programs), and recommended consideration of one-way "shipping platforms" for light-weight applications. In 1995, the Efficient Consumer Response Initiative published the "**ECR Transportation Report**". This report addressed the pallet problem relative to impacts on the transportation process, and recommended elimination of pallet exchange in favor of the 3rd party leasing programs and/or throw-away corrugated shipping platforms. In January, 2000, the Efficient Foodservice Response Initiative published a report titled "**Assessing Pallet Cost in Foodservice**", which concluded that pallet exchange remains the most prevalent practice for managing pallets between trading partners in the foodservice supply chain. The report also stated that pallet quality is the biggest challenge facing foodservice distributors, and pallet inventory control was the most challenging issue facing shippers. This EFR report offered several recommendations including: improve pallet pool quality, adopt self-regulation, adopt published guidelines, and determine the most cost effective platform(s). While well intended, these "try harder, do better" suggestions certainly lacked any creative new ideas that might result in overall improvements.

IMPACTS ON TOTAL LOGISTICS PERFORMANCE

These widespread problems of ineffective pallet management practices and poor pallet quality in the white wood pool have had a broad rippling effect on performance results in many areas of logistics. Transportation productivity, shipping and receiving dock productivity, automated material handling systems performance, product damage, and even safety, are some of the key performance areas that have suffered. Executives with all types of companies involved in the supply chain, manufacturers, distributors, carriers and 3PL's, are all keenly aware of the negative impact of poor quality pallets and other pallet related issues on their respective operations.

Shipping and receiving are areas that have been particularly hard hit. Disputes over pallets between trading partners and carriers have caused shippers to implement procedures aimed at minimizing pallet costs. Practices such as floor loading or slip sheeting shipments to eliminate pallets completely; combining items/sku's on pallets to minimize the number of pallets used, and transferring product to low cost/poor quality pallets for shipping, all done to minimize pallet costs. These practices add steps thus inefficiencies at the shipping dock, then cause inefficient handling on the customer's receiving dock. An entire cottage industry, the "lumper" business, has grown out of this situation where shipments are not delivered in a palletized, "put-away ready" state. Restacking by lumpers causes truckload deliveries to take up to three hours or more to unload, tying up both dock space and transportation equipment. A truckload shipment delivered in a palletized, put-away ready state can be received in less than an hour. In addition to faster unloading, count discrepancies are less likely, both in shipping and receiving. While all products and order types do not lend themselves to this type of palletized shipment and delivery, many current shipments could be easily reconfigured for more efficient deliveries if not for the **pallet dilemma**.

With the advent of the new **hours of service** regulations, shipping and receiving dock time, as well as pallet exchange activities, have taken on new meaning in the cost equation for carriers. These new rules add significant "value" to the driver-time requirements that are driven both directly and indirectly by pallets and pallet management processes. Undoubtedly, these new regulations have caused even more carriers to resist pallet exchange, and to press shippers and receivers for additional revenue to offset the cost increases associated with loading and unloading dock time.

FUTURE TRENDS

Many shippers, as well as their receiver/customers, are "searching" for a solution to the **pallet dilemma**. One alternative that is growing in popularity with shippers is the "one-way" pallet. As the per-trip-cost of rental programs increases, it becomes economically viable to just absorb the full cost of a pallet without exchange. This concept removes the hassles of pallet exchange, and avoids the "cost" of a 3rd party such as a rental company. Unfortunately, this model often only addresses the needs of the shipper with respect to materials handling and pallet expenses. A pallet that is designed to meet the requirements of a "one-way" shipper often will not meet the requirements of the receiver. This may result in re-palletizing at the receiving dock onto acceptable pallets (see above comments on the lumper process) and/or negative feedback from a disgruntled receiver. Many receiver/customers have resorted to issuing fines for deliveries made on "poor quality" pallets. This trend toward increased use of one-way pallets could also exacerbate an already serious environmental issue with disposal of poor quality pallets. Mulch production and homecoming bonfires could not possibly keep pace with the number of junk pallets this trend could generate!

RFID, block pallets, plastic pallets, phytosanitary requirements for global shipments... all "opportunities" that are hampered by the **pallet dilemma**. Without effective management practices for dealing with the increasing value of a reusable asset across trading partner boundaries, these "opportunities" will struggle to achieve their potential. Shippers are and will continue to be reluctant to adopt changes that increase the cost of pallets, even though the overall benefit to the supply chain may be significant. The block style pallet is a good example. This relatively new design is a much more "user friendly" 4-way entry design, allowing for more efficient shipping and handling practices. Many distributors have expressed a strong interest in broader acceptance and use of the block pallet, however, due to cost, shippers have resisted. The block design has become the "standard" for the rental model, a change that has added differential value to the rental model. Plastic pallets have suffered from the same "cost/price" barrier. Everyone knows that plastic pallets are a good value in "closed-loop" systems, where control of the asset is doable...further validation of the pallet dilemma. Today's most popular buzz-phrase solution to supply chain performance issues, RFID, will suffer a similar fate. As with the block design, the pallet rental companies are embracing RFID as a point of differentiation.

WHAT TO DO - WHERE TO GO FROM HERE?

Asset management across trading partner boundaries within a supply chain is the issue. Can the rental model be effective? (Definition of effective: profitable for suppliers **and** cost efficient **and** reliable for supply chain members) The jury is still out. Creative ideas that are fair to all participants, and at the same time do not hinder new innovations, need to be a priority focus of all companies currently suffering with the total impact of the **pallet dilemma**. New ideas are out there trying to get your attention. Open your eyes, ears and minds and think, as they say, out of the box. Be courageous and try something new...something that doesn't reside on your hard drive!

ABOUT THE AUTHOR

Dave Sandoval is President of B.U.S. Systems, Inc., a consulting firm established to introduce a new process for pallet management for the food and consumer products supply chains. Dave has over 30 years of operations management and consulting experience in the food and consumer products industries.

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