A Kane White Paper

Integrating Contract Packaging into Logistics Operations

Performing final packaging in the distribution center can cut combined warehousing, packaging and freight costs by 30%.

Specific consumer products look exactly the same when they roll off the manufacturing line. To satisfy retailer requirements, however, these identical products are wrapped, sealed, tied and packed in dozens, even hundreds, of different ways for presentation on the retail shelf. Consumer packaged goods (CPG) companies often outsource final packaging to outside contract packagers, adding a costly and time-consuming step between manufacturing and the distribution center.

CPG companies can streamline their supply chains by integrating final packaging into existing distribution operations and entrusting the function to the logistics professionals who manage warehousing and transportation. Doing so can reduce combined distribution, packaging and transportation costs by 30%, and can cut at least 7 days in order-to-delivery cycle time.

Combining Customization with Distribution Saves Money

There are different types of packaging operations. Primary packaging, such as filling a bottle or wrapping an individual unit, is typically performed as part of the manufacturing process. However, since it is not economical to change products on the manufacturing line into variety packs and other configurations for retail display, this kind of customization is generally done by outside contract packagers. It is this final stage of packaging that offers an opportunity for cost-saving integration with distribution operations.

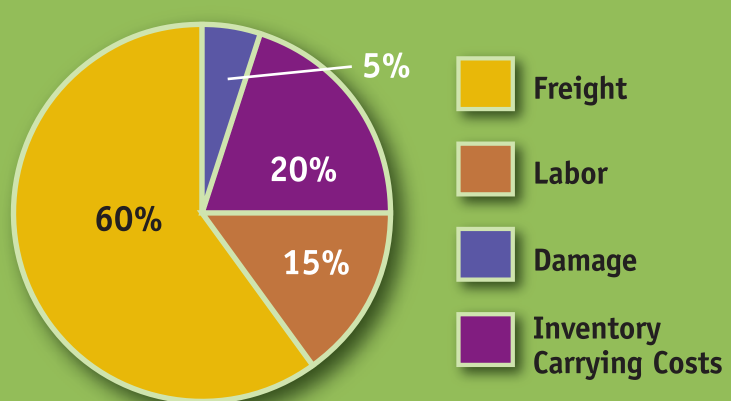
Combined packaging/distribution has become possible with the increasing sophistication of a select group of third-party logistics providers (3PLs), who have invested in the equipment and resources to take on complex packaging assignments. (See sidebar *"3PLs Step Up Capabilities to Enable Leaner Supply Chain"*) Packaging performed in the 3PL-operated distribution center (DC) eliminates costly runs to outside packagers and shortens the product customization cycle.

How Much Can Be Saved?

Companies that integrate contract packaging into distribution operations can cut combined warehousing, packaging and transportation costs by 30%. Savings are driven primarily by these factors:

- **Lower freight costs.** Typically, products ship out to the contract packager and then back to the DC for final distribution. These extra runs hike freights costs an estimated 38%. Eliminating these costs on an $8 million spend would mean a savings of $3 million, not to mention the added environmental benefit of taking trucks off the road.
- **Lower inventory carrying costs.** Use of an outside contract packager adds about 7 days to the distribution cycle. Worse, companies typically lose visibility of their product during this time, creating uncertainty about the amount of product available for sale. Manufacturers deal with this uncertainty by adding inventory, which in turn adds warehousing, labor and financing costs.

What Drives the Savings from Integrated Packaging and Distribution Operations?



Kimberly-Clark's Network of the Future

As part of its "Network of the Future" strategy, Kimberly-Clark Corp (K-C) has consolidated contract packaging and distribution in ten mega-distribution centers (DCs) around the U.S. and Canada. The model was developed, in part, to respond to retailer pressure for shorter product runs and special exclusive packs.

In K-C's traditional, linear supply chain, goods and materials went from K-C facilities to a contract packager and then to a DC before heading to stores. In the new model, third-party logistics companies (3PLs) provide contract packaging, warehousing and distribution services inside K-C's DCs. The company believes this "service-in-the-DC" model will achieve lean packaging through better logistical efficiency. The idea is to move packaging operations closer to the customer, thereby postponing order fulfillment as long as possible and improving forecast accuracy by finalizing packaging closer to the ship date.

The "Network of the Future" strategy has yielded the following improvements:

- **Reduced packaging and distribution costs.** Combining warehousing and packaging operations enables shared, flexible labor resources.
- **Reduced infrastructure costs.** Eighty U.S. warehouses have been consolidated into 25. The capital cost of equipment has been transferred to the 3PL.
- **Increased product outflows.** The volume of product leaving DCs is expected to increase as much as 25% by the project's seventh year.
- **Faster cycle time.** Product orders are arriving at customers 85% of the time in one day or less, compared to 60% under K-C's previous operations approach.

- **Reduced labor and equipment.** Combined packaging/distribution operations allow for labor and rolling stock to be deployed where it's most needed at any given time, across multiple functions. Cross-trained workers can be available to address peak demands in the DC or the co-pack area. Management costs are also reduced and the functions can share security, clerical, maintenance and other facility staff.
- **Reduced damage.** The more product is moved, the greater the potential for damage. Shipping product to and from an outside packager results in about 3% damage. If it's a liquid product, the percentage will be higher, since damage to one bottle can destroy multiple cases.

Are 3PLs Ready to Take On Contract Packaging?

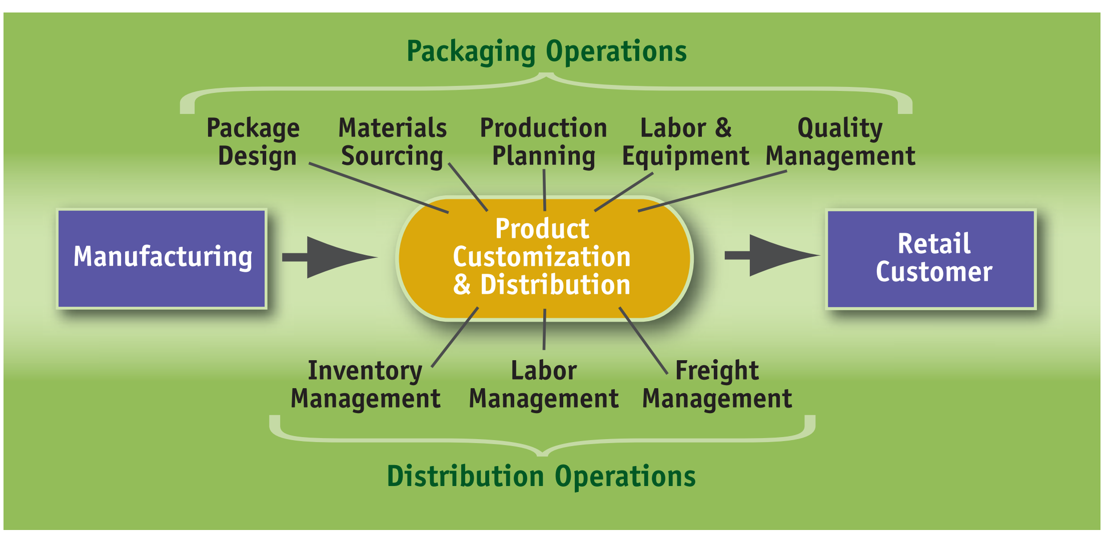
Some are. Some aren't. Moving a complex contract packaging operation to a distribution center is a big shift, from a "ship it" to a "make it" operating environment. That has significant implications for 3PL operations, and they need to make important changes. Enhanced 3PL requirements include:

- **Experienced packaging engineers**, needed to design the packaging process and specify and modify the equipment required to automate and streamline operations.
- **A rigorous quality control process**, to manage the greater risk inherent in a packaging environment. The financial downside of a missed shipment is minor compared to an improperly packaged product for a large retailer order, which could result in chargeback fines or even recalls. Managing this risk requires methodical in-line and pre-shipment quality checks.
- **Strict processes and KPI measurement tools to monitor and measure outside labor.** Manufacturers want a variable cost structure for final packaging based on volume. 3PLs must be able to meet fluctuating demands using outside labor providers, while meeting all quality objectives.

3PLs Step Up Capabilities To Enable Leaner Supply Chains

The enhanced capabilities of third-party logistics providers (3PLs) mean that integration of final packaging into distribution operations has now become a compelling proposition. This is the latest chapter in a long history of 3PLs developing value-add capabilities that allow them to integrate functions formerly performed by the manufacturer or retailer into existing logistics operations. Examples include:

- **For a water heater manufacturer**, UL-certified technicians at the company's 3PL warehouse change out heating elements and brand labels in response to contractor orders. By stocking only base models of its heaters in the warehouse and custom-configuring every order with on-hand parts, the company has reduced inventory carrying costs by 10%.
- **For a telecommunications company**, 3PL technicians at the returns processing center have replaced outside repair vendors in performing minor repair and refurbishment of cell phones, saving millions.
- **For a major aircraft manufacturer**, a 3PL builds sub-assemblies at the supplier warehouse and delivers them to the manufacturing line to increase production line speed and efficiency.



CPG companies are integrating final packaging into existing distribution operations to cut costs and get products to market faster.

Logistics providers that have developed their businesses to manage in a manufacturing environment are well positioned to assume the final packaging function. They have ready access to capital to buy labor-saving automation equipment and sophisticated information systems to manage both distribution and packaging.

These 3PLs offer another notable advantage over contract packagers and the companies that manufacture the corrugated displays: They understand the impact of packaging on overall supply chain costs. Case in point: A packager for a large CPG company designed a point-of-purchase display that took 28 hours to assemble. A 3PL suggested changes that maintained the basic look of the display but cut assembly time and labor costs in half.

Let's be clear. Contract packagers are generally very good at what they do. The need for a new model is not driven by a flawed packaging capability; it's driven by a flawed, unnecessarily complex supply chain process.

Large CPG Companies Are Leading the Change

America's largest CPG companies are recognizing the inefficiencies in the current process for product customization and are leveraging 3PL packaging capabilities to streamline their supply chains.

- **Kimberly-Clark** has consolidated contract packaging and distribution operations into ten 3PL-operated mega-centers throughout the U.S. and Canada. This "service-in-the-DC" model cuts costs and increases speed to market by reducing supply chain touch points. (see sidebar *"Kimberly-Clark's Network of the Future"*)

- When **Procter & Gamble** integrated packaging into its distribution operation, the company cut costs by 10% at its Northeast paper DC. Formerly, a contract packager operated a separate packaging operation within P&G's DC. But the company turned the packaging function over to the 3PL that ran its DC and transportation operation. By sharing resources across functions, the 3PL was able to perform both packaging and distribution with improved quality, while using fewer people and at a substantial savings.

It's only a matter of time before manufacturers of all sizes recognize integrated packaging and distribution as an opportunity to get products to market faster with greater flexibility and at a lower cost.

Retailers Are Driving The Change

Mass retailers are the power brokers in today's retail supply chains. They want what they want, when and how they want it. An "in DC" packaging operation gives brand managers the freedom to change packaging formats with great agility, to reflect the retailer's merchandising strategies and without concern about vastly inflating costs.

Here's an example. Let's say a cleaning product manufacturer has an idea for a multi-product "Spring Clean-Up" bucket. Walmart likes the idea and requests 100,000 buckets for a pilot program that it wants to kick off in four weeks. A flexible, fast solution for product packaging and distribution enables the manufacturer's sales team to book the order with confidence rather than bargain for more time to design and create the kits. That's a powerful competitive advantage.

The Future of Contract Packaging in the Supply Chain

CPG supply chains can no longer afford the added costs and time that comes with separate packaging and distribution operations. These functions will be integrated. And the integration will not stop at simple execution of final packaging. 3PLs that have evolved their businesses to meet this emerging market demand will enable CPG companies to pursue a total outsourced model for final packaging, including:

- **Display design and testing.** A 3PL would work with a corrugate company to design a display that meets marketing's specifications and is practical to build and ship.

- **Sourcing and ownership of packaging materials.** A 3PL would source materials and take ownership of this inventory until it's used. As a result, manufacturers avoid administrative costs, as well as the cost of carrying this non-sales inventory.

- **Equipment specification and purchasing.** Shedding these assets enables manufacturers to direct available capital to support core business strategies.

Consumer product manufacturers, led by the largest global companies, have already begun to integrate final packaging with distribution operations. Small and mid-sized manufacturers will follow suit as they recognize the potential of an integrated model to drastically reduce supply chain costs and cycle time.

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Kane is Able, Inc. (http://www.kaneisable.com) is a third-party logistics provider that helps consumer packaged goods (CPG) companies warehouse and distribute goods. Kane has managed high-volume packaging operations since 1993.