Today, many companies with significant distribution operations are finding attractive opportunities for cost savings through distribution network consolidation.

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In the past, mergers or acquisitions were often the principle drivers for considering the expense and operational risk of such organization re-engineering. Today, it’s the simple evaluations of lowering or cutting costs in a distribution network that drive executives to look at redesigning the business practices, processes and operation of their supply chain.

Anyone that’s considered consolidating a company’s distribution operations knows it’s no small undertaking. Consolidation affects everyone—customers, employees and supply chain partners. All are impacted by a decision to combine geographic locations, or even different divisions of the same operation.

Determining if consolidation is right for an organization requires consideration of many issues, including labor, logistics, technology, automation cost/benefit and customer service. What is often overlooked but can contribute significantly to cost savings is rethinking an organization’s approach to inventory management by developing alternative strategies. Without a doubt, at a 25 percent carrying cost for maintaining inventory, reducing inventory can be a significant opportunity to save.¹

While developing inventory reduction models, most supply chain managers develop trade-offs between warehouse size and their relative service capability based on a regional model and the efficiency of meeting orders. Meeting the demand and getting products to the customer in a timely basis involves high-information system efficiency and labor productivity in the distribution and delivery systems.

Most supply chain consolidation models leverage truck and freight costs (combined with carefully designed regional availability) to offset the new, bigger facilities that replace the multiple distribution and warehousing centers found before a consolidation. The savings in functional redundancies and personnel overlap are significant enough, but the ability to utilize lower inventory levels and service the same number of orders is the real value in larger consolidation projects. Key to the new supply chain model is the ability to manage service rates and turns much faster.

To seize the cost opportunities that inventory reduction presents, distribution centers must become nimble, even though they have often grown in size. In essence, supply chain consolidations allow the company to eliminate days on hand, but they must find ways to create supply at a rate that meets marketplace demand.

The drivers behind consolidation are generally simple—to reduce costs and/or improve customer service levels. Despite the compelling big-picture argument that can be made in favor of consolidation, there are significant issues that need to be considered before deciding it’s the right thing to do.

LOCATION, LOCATION, LOCATION

In examining this new supply chain model, the larger but less frequently found warehouse is usually situated in national hot spots for distribution centers. These national distribution “hot spots”, such as Memphis, TN, Indianapolis, IN, and Cincinnati, OH are population centers with major, rapidly accessible roadways and airports. Positioning centers in areas like this allow freight efficiencies to optimize costs without jeopardizing the typically smaller (but more frequent) order demands.

Transportation issues are important because they directly impact when, how and in what condition customers receive shipments. Customer service is one of the primary issues to consider when evaluating a new geographic location. The site chosen should make sense for the majority of customers, but is critical to key clients. Questions to ask include:

• Will the new location be able to provide the same or better level of service to customers? Are any major customers negatively impacted?
• Will customers who are accustomed to same-day service still have it without extra cost?
• Will the logistics model provide the same or better access to necessary modes of transportation—truckload, LTL, parcel, rail, ocean and air?
• How will the new traffic patterns impact the lead-time for shipments?
• Is inbound freight logistics impacted positively or negatively?

TECHNOLOGY AND AUTOMATION

When considering consolidation, it’s important to consider the amount of technology and automation in each of the present facilities and then decide what will be the best mix of automation and technology to support the consolidated business model. A review of primary information management systems should be completed first—business/order entry, warehouse management systems (WMS), and transportation management systems (TMS)—to determine compatibility. If systems are not compatible, the advantages of

SUPPLY CHAIN CONSOLIDATION

A GREAT STRATEGY IF EXECUTED CORRECTLY

interfacing using middleware must be compared to the cost of replacing with a new solution. Review material handling equipment, compare it against the product mix in a consolidated facility (ies) and look for gaps in product handling capability, throughput limitations and in tracking capabilities. Next, investigate whether the systems in the various locations are compatible or whether any new/additional equipment and technology is needed to achieve specified goals. Compare the costs of reconfiguring and relocating material handling equipment against the cost of purchasing and implementing new equipment and its benefits. With material handling equipment as well as systems such as WMS, the efficiency of the operators, throughput limitations, expandability and maintenance costs must be part of the equation. Automation equipment must work in concert with the product, systems, and workforce to be successful.

CUSTOMER SATISFACTION

Perhaps the most important consideration is whether customers will directly feel the benefit of the consolidation. If consolidating different divisions, this may offer customers the opportunity to accept fewer, larger shipments. Some customers may like that they are able to get all their freight from a supplier on the same day, while others may continue to insist that they receive separate shipments. Of course, this would not generate the transportation efficiencies expected.

Another factor to consider is how returns will be consolidated and handled in the new facility. Some questions include:

• Where will returns be housed?
• How will they be tracked?
• How much time will be needed to process?
• If serving customers from different geographic areas, what returns policies are these customers accustomed to?

LABOR

Labor is one of the key issues to consider. How wage rates and incentive pay is structured, use of temporary and part-time labor, as well as the labor wage rates, will be impacted by consolidation. Most importantly, consider the existing labor pool today:

• What are existing labor contracts, and how much will potentially unfulfilled contracts cost?
• How will a consolidation and possible relocation impact the current and future workforce?
• What positions will be eliminated, or will more labor be needed?
• Is a skilled workforce available in the new location?

It may not be prudent to choose space savings over availability of a labor pool with the proper technical skill unless a substantial investment in a training budget is planned.

BEST PRACTICES IN CONSOLIDATION

Once consolidation is decided upon, getting started requires the development of a strategy that covers every aspect of the project.

1. Have the expertise on hand to do the job. DC consolidation is no small venture. An experienced team is needed to cover all the bases, and even more important, strong, effective full-time project management to get the job done. Build the project team with an experienced set of project managers to cover every aspect of the consolidation—analysis, design, implementation, start-up, training and beyond. The project team should have representation from each of the following areas: warehouse design, freight and transportation, inventory control and management, technology (WMS, TMS, automation, etc.), customer service (to determine service levels), sales and marketing (to provide growth projections—where growth will be and for which products, etc.) as well as finance and administration.

A project leader should be assigned to communicate with each of the areas so the consolidation team is working together and communicating with one another through every step of the project. Leadership is of utmost importance with a project of this magnitude. It’s leadership’s responsibility to set clear expectations and to manage the entire process. This includes establishing clear communications with customers and suppliers, managing the cultural problems that could crop up, and keeping everyone focused on the end goals.

2. Ensure that there is sound justification for every step of the project. Remember the two consolidation goals of increasing service and reducing costs. A consolidation should improve customer service levels and keep costs down. Consolidation should be justifiable at every turn.

• Analysis: Quality inputs are necessary to make an intelligent decision for every aspect of the project. Make sure that the analysis of sales figures, SKUs and labor is the best possible. These figures will help determine how much space, labor, equipment and technology is needed. When considering consolidating into an existing facility, it’s necessary to know whether that facility can handle the consolidation volume. Detailed analysis of facility space should be conducted (storage areas, receiving dock, order processing area, returns area, shipping, etc.), methods of storage (single pallet, two- or three-deep push back, bulk floor, etc.), inbound product volume (trailers and pallets per day, etc.), order profile, outbound order volume, order processing methods, peak volumes, seasonality, etc.

• Design: How should the new facility be designed to meet its objectives? What is the best layout? What technology, automation and labor are needed? What will labor be doing? There is likely automation and technology already in place in the facilities being consolidated. Of this existing technology, which is the best and can be retrofitted in the new facility? Are there different systems in place at each facility and if so, are they compatible or would a completely new system be a better choice? Where to start the
A GREAT STRATEGY IF EXECUTED CORRECTLY

design is also instrumental. It is always better to design around
the process and equipment than to fit it into a footprint, but if an
existing facility is chosen, the design must leverage limitations,
creating benefits rather than building in obstacles for the
future operations.

3. Set clear goals and a realistic schedule for the consolidation
to measure success. One of the most common mistakes made
is in setting an unrealistic schedule to meet an arbitrarily set date.
Schedules should first and foremost allow for proper set-up of
systems and equipment to be installed and tested prior to start-up.
Next, an orderly transition plan backed up by a detailed contingency
plan should be followed. If these two steps are taken and the proper
project management time is dedicated, the transition will generally
run fairly smooth. Another trick to meeting deadlines is establishing
key performance indicators (KPIs) up front, and then monitoring
them post start-up. Most people are surprised that it takes three to
six months to reach productive levels in a new DC operation and
much longer if performance measures are not monitored and acted
upon. These are just a few of the items that should be established
as KPIs:

- Labor per unit received/picked/packed/loaded (key items in
determining if the new process is working).
- Order cycle time (time from order received to shipped) will be
less than X.
- Inventory turns (how long product sits in the warehouse) will be
greater than X.
- Damages: inventory write-off due to damages will be less than
X percent.
- Returns: customer returns will be less than X percent.
- Lost-time accidents: there will be no worker absent from work
due to a work-related injury.
- Inventory accuracy will be greater than X percent.
- Space utilization (amount of available space versus amount of
utilized space) will be less than X percent.
- Order accuracy (what did the customer order vs. what shipped) will be at least X%.
- Order fill rate (for every customer order, how many times did it
take to ship this customer the entire order) will be greater than
X percent.
- Orders shipped on time (in full) will be X percent.
- Employee satisfaction: employees will report that they enjoy their
work atmosphere and turnover will be reduced.

4. Ensure buy-in and support to make it all happen. Sometimes
consolidation means jobs will be lost. Naturally, old processes
will change and new processes begin. With this in mind, the plan
for consolidation could be met with resistance from the workforce.
Effective communication with the workforce is needed to garner
the necessary support and make the difficult transition (if jobs
are to be lost) go as smoothly as possible. Managing this process
effectively includes regular meetings on the status of the project so
that everyone is aware of both the goals and challenges. Doing so
will be good for long-term morale.

Effective communication with business partners and customers
will also be necessary to ensure support in the transition to the
new facility. Developing a transition plan and a communication

strategy will ensure all parties are aware of important milestones
in the process. For example, there could be delays in ramping up to
previously established volumes and service levels, which could
cause problems for customers. Formal communication to customers
and vendors/suppliers will help calm fears and solidify relationships
in the event that things do not go exactly according to plan.

THE CONSOLIDATION CHALLENGE

There are significant operational and logistics savings associated with
consolidating an operation. In addition, it presents the organization
with the opportunity to improve throughput capacity, improve
employee safety, ergonomics and working conditions. Even with
the negatives of accepting change, altering customer expectations,
closing old operations, and the pain associated with the transition,
it generally is the right decision for organizations. The key is to plan,
dedicate the right resources, leverage outside experts and do the
necessary work up front with employees and customers.

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