



White Paper

Eleven Key Questions when Adding a Distribution Center

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Eleven Key Questions when Adding a Distribution Center

Introduction

You've outgrown your distribution capacity and need to expand. It may not be as simple as applying your successes from previous Distribution Centers to the new one. You'll reap greater rewards if you take a step back and reevaluate your supply chain network and its associated distribution processes more holistically.

Many companies set up their new distribution center to mimic their existing ones. However, the requirements that are driving the need to add capacity to your network might dictate a different strategy. For example, you might want to set up new rule sets that assign customer orders to different facilities based on new SKU characteristics, product groups, transportation modes, customer locations and/or inventory availability.

Multi-site distribution environments can be complex. These questions will help you consider the issues that should be addressed as you expand your distribution network.

Question #1: Do supply points need to be changed to service the new DC?

Now is the time to reconsider your vendors. Are there new vendors that can provide the same quality products and service, but are located closer to the new facility to reduce transportation costs and transit time? This needs to be considered in all cases, ranging from new ports of entry for international supply or potential freight consolidation locations for domestic supply. Vendor compliance can be a factor as well, with different rules of engagement possible in a multi-facility distribution network versus a single-facility network.

Question #2: What will the inventory strategy and deployment rules be?

The strategic plan that led to the deployment of a new DC should provide directional guidance around inventory strategy and deployment, but the details must be addressed during facility design. Now you must focus on the requirements for storage and throughput capacity, as well as other upstream and downstream requirements, for example:

- Types of SKUs that will be handled at each location (break pack, full case, ship-alone large items, hazardous materials, temperature-controlled)
- Slow-moving SKUs in single or multiple locations
- Core product deployment versus seasonal product deployment
- Channel service requirements (Direct, Retail, Wholesale, Multi-channel)

Question #3: How will product flow from supply points to multiple distribution centers?

Your strategic plan should also provide high-level guidance on this question. But as you consider the implementation of a new distribution location, more detailed analysis by product type and vendor will need to be conducted. Issues to consider include:

- Break bulk/freight consolidation centers at ports to deconsolidate or consolidate shipments from overseas or heavy areas of domestic supply
- Cross-dock capabilities at the new and existing facilities to allow for deconsolidation/transfer operations to be efficient
- Bypassing internal distribution altogether and ship some products direct to pool locations, stores, or end-customer locations
 - Facility
 - Equipment

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Question #4: Based upon inventory strategy and facility locations, how should the merchandising, procurement, and planning functions operate?

A new DC may significantly impact your merchandising and procurement functions. For example, what are your requirements for multiple-destination purchase orders? And what are your "optimal" SKU ordering characteristics (style/color assortments, prepacks, case quantities)? Other considerations include order frequency and quantity requirements, and adjustment of order lead times to account for landing product supply at multiple destinations.

Question #5: How will the inbound transportation requirements change?

When you split inbound shipments between distribution facilities, you must understand the impact on vendor order minimums, freight costs and service levels. You will need to establish a rule set for each vendor as part of the systematic management of these requirements. If a core carrier program is in place, it must be determined if it provides the same benefit to the future distribution network as it does to the existing network. Also, new carriers for the lanes transporting product into the new facility may have to be engaged.

Question #6: How will inventory allocation between facilities be managed at a tactical level?

Allocation timing becomes a key consideration in a multi-site distribution operation. In most cases, you will want to delay inbound inventory allocation as long as possible. However, the timing of product ownership, inventory visibility and systems must all be considered.

Question #7: What are the systems requirements necessary to support multi-site transportation, merchandising, purchasing, and allocation requirements?

Another consideration when adding a new distribution center is the impact on the systems that manage the product and information flow from buyers and vendors. Inventory management systems, planning and allocation systems, and purchasing systems will have to be modified, or in some instances, replaced. A Distributed Order Management system that allows effective management of multi-site distribution and allocation requirements is key, as is a transportation management system that provides visibility to the flow of inbound product from vendors to multiple facilities.

Question #8: What SKUs will be rationalized for each facility in the distribution network?

If your goal is to regionalize demand requirements to improve customer service at a lower operating cost, the tradeoff might be increased safety stock inventory investment and costs to carry a full line of SKUs in multiple facilities. Alternatively, you may decide that only fast-moving SKUs or SKUs with certain characteristics or for certain demand channels will be carried in one facility, while others carry the full line of SKUs. Whatever the rationalization for the SKUs that are carried in a new facility, the equipment, facility, operations, systems, and people requirements will be impacted by the decision.

Question #9: How will customer orders be fulfilled?

Requirements for different order types will dictate the design of the new facility. Carton picks, pallet picks, broken case picks, and ship-alones all have design considerations that must be understood. One other item of significance in customer order fulfillment relates to how multi-line orders are completed when the entire order cannot be filled from one DC with the inventory that is in-stock. It must be determined if customers will accept split shipments from multiple distribution locations, or if the customer must receive all line items in one shipment from a single location. Different rule sets might allow customers to be given a choice depending upon the order profile or the season. In these situations, product transfer management between facilities and in-transit inventory visibility must be addressed.

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Question #10: How will demand fluctuations and seasonality impact facility operations?

Storage strategy during peak season might impact the investment requirements for the facility and storage equipment. Offsite storage for peak requirements can mitigate initial investment requirements, but add operational complexities. The disposition of special projects or value-added services like gift wrapping during peak seasons must also be considered.

Question #11: What are the systems requirements to effectively fulfill demand in a multi-site distribution network?

The Warehouse Management System (WMS) that is in place in the existing distribution centers may not meet the unique requirements of the new distribution center. Even if the new facility is a mirror image of the existing one, host and order management interface requirements will need to be addressed. A Distributed Order Management system plays a huge role in demand fulfillment as it has real-time integration with key business systems, and provides real-time order status and visibility. Companies that primarily support wholesale and retail distribution channels may also need a Transportation Management System (TMS) to support new multi-site transportation requirements.

Think Holistically

It is important to realize that these questions cannot be answered independently; every decision made in one of these areas has a ripple effect up and down the supply chain. The key is to focus on the integration of all of these areas during the operations design process.

Because of that, any change to a distribution network needs to be thought of holistically and managed by a cross-functional team. In a typical project, the Supply Chain division begins development of a conceptual design, and Real Estate begins the site selection process. But leaving it to those two groups to drive the implementation of a new DC is short-sighted. Many other stakeholders should be working closely with these groups to ensure a seamless transition into the expanded DC environment, including construction management, customer service, procurement/sourcing, and transition management.

In addition, to efficiently integrate the new DC into the existing distribution network, approach the implementation of a new facility as a program, addressing all of these areas holistically:

- People
- Operational Processes
- Systems

Only then will you ensure that your go-live is on schedule and on budget while improving service and reducing the overall total cost to serve.

Conclusion

Adding a new distribution center to your network is not solely a distribution and transportation effort. Company stakeholders, from vendor relations to customer service, will be impacted by this transformational change. They need to be involved from the beginning to create a more effective distribution network that minimizes the total cost to serve and maximizes customer service. Without this holistic approach, the overall effectiveness of the distribution environment will be reduced, and the business case outlined in the strategy could be jeopardized.

Case Study

O'Reilly Auto Parts acquires CSK Auto and becomes the Third Largest Auto Parts Chain in the Country

When O'Reilly Auto Parts acquired CSK Automotive, the race was on to merge both companies' distribution operations. The O'Reilly team developed a master plan that focused on market growth, mode of supply chain support, and a strategy for finding middle ground between retail and wholesale business requirements. A major element in the acquisition was to better utilize inventory, real estate, distribution centers, labor, and transportation while improving service levels to the stores and their customers.

O'Reilly called on Fortna to help them shift into overdrive. Merging the O'Reilly and CSK supply chains quickly required a partner with the breadth and depth to handle:

- Increased SKU count and improved inventory mix
- Strategically placed distribution centers
- Highly integrated computer systems
- Organizational changes
- Modified transportation/product distribution to support O'Reilly's daily delivery model
- Real estate

In just two short years, seven additional facilities were integrated into a distribution network that now serves more than 3,500 stores with up to 120,000 SKUs.

"Given the magnitude of this project and its importance to our customers and investors, we knew Fortna was the partner we wanted. They have the talent, the tools and the commitment to deliver on their promises."

Greg Johnson, SVP, Distribution Operations, O'Reilly Auto Parts

About Fortna

Fortna designs, implements and supports business solutions to optimize your supply chain. With Fortna's client focused approach, you have a partner who acts and thinks like you do. Our focus on the business case and willingness to share your risk ensures that you are meeting your business objectives. Your success is our success. Fortna delivers solutions that are appropriate, implement-able and financially justifiable and we are honored that supply chain leaders are adopting our model.

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