Preparing for Advanced Inbound Planning and Execution

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Ask most supply chain executives to name the five most significant areas for improvement in operations support systems and chances are that at least one of the items will involve better inventory planning. Instituting a more effective way of maintaining inventory data integrity or establishing higher productivity and capacity utilization as a result of better inventory data are likely to be at the top of the list. Poor inventory data integrity results in high levels of excess non-productive labor, underutilized distribution center (DC) capacity and reduced customer service levels due to unfulfilled or late orders, all typically during peak operations when capacity is stretched or when maintaining customer service levels is crucial.

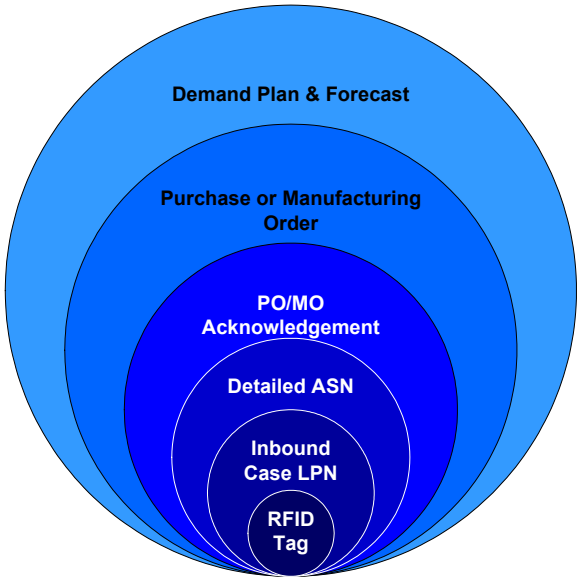
The foundation for accurate inventory starts with having accurate information for the inbound side of the DC operations. Having certain information far enough in advance also provides the opportunity to significantly improve inbound productivity. In addition, making well-defined improvements to inbound operations can set a new performance benchmark for the remainder of the operations to follow.

During the WMS implementation effort, the opportunity to make significant improvements in inventory planning can be incorporated with your WMS deployment plan in a systematically organized manner. Integrating the primary components that can support advanced inventory planning and inbound execution can ensure that the project investment level is on target and return is maximized. If you already have a WMS, then you must evaluate the capabilities of your system to support advanced inbound planning and execution functions. In either event, the following guidelines will help you maximize the potential benefit.

Get the right information as soon as possible: What do you need?

Depending on the nature of your supply chain and the trading partners involved, you may have a significant portfolio of information available to support advanced inbound planning. The key to making the most effective use of this information lies in making educated decisions around which inputs are the most valuable to achieving the desired result. Delivering an intuitive, accurate supply chain operations solution will provide the needed motivation to fully benefit from the changes being introduced.

The following diagram illustrates the escalating level of specificity of information for potential use in inbound planning and operations. Generally, the broader the level of information, the further in advance it is available for planning purposes.



Demand Plan and Forecast: This information can be used to prepare the distribution facility for all areas related to inbound operations, from QA and value-added services planning to advanced product slotting and off-site storage management.

Purchase Order or Manufacturing Order: This information can be used to verify the basis provided in the demand forecast and to provide more specific information regarding the exact SKUs or quantities ordered for a specific timeframe.

PO/MO Acknowledgement: This information is extremely valuable in validating intended PO or MO fulfillment if suppliers or manufacturing facilities are authorized to perform product substitutions or adjustments to ordered quantities.

Detailed Advanced Shipping Notice (ASN): The ASN provides the specifics regarding what is to be shipped to the distribution facility and when it is scheduled to arrive. In turn, the supplier, the manufacturing facility, the transportation carrier or any combination of the three may provide this information.

Inbound Case LPN: The case license plate number ties the actual cases received to the information provided within the detailed ASN.

RFID Tag: Because they eliminate the need for hands-on line-of-sight scanning for some operational scenarios, RFID tags for each inbound case provide the case-specific and product-specific information that results in highly efficient inbound execution. These tags may also be utilized for similar efficiencies further down the supply chain for customers or retail stores.

At the highest levels of information availability, the existence of a reconciling factor should also be considered in making the information as accurate and valuable as possible. For example, if primary suppliers or manufacturing facilities can provide information regarding inventory availability (available raw materials, WIP or finished goods), then the viability of the

demand plan can be reconciled. In addition, updates to certain information components should be considered in making sure that the information available is as accurate as possible (for example, frequent forecast updates can ensure that the up-to-date long-range horizon is maintained).

Get the right tools for planning: What should I do with the information?

It's unlikely that your WMS is already outfitted to provide the intuitive management tools necessary to make use of the information available to contribute to advanced inbound planning. In the absence of a purpose-built solution, try to make use of available tools to provide visibility in a manner that fully realizes the potential of the information you have.

- **Analysis and reporting tools.** The right reports can make all the difference in how well the information is utilized. Standard reporting and analysis tools can be configured without an excessive level of effort to make use of all the information available.

- **Collaboration tools.** Facilities may be based on currently used technologies or may involve the introduction of new components. Collaboration tools facilitate information exchange and provide expanded supply chain visibility. They allow for the information flow to be considered a cycle of feedback between two or more trading partners, each making use of the information provided by the other partner(s).

Get to work: How do I use the information now that I have it?

Once the appropriate portfolio of available information has been identified, putting the framework of operational objectives in place to best utilize this information should be tackled. Some of the possible goals to set for using the available information might include:

- **Coordinated hand-off between yard management and inbound DC activities.** Typically, the yard management function deals with trailer-level information for managing the assignment and scheduling of inbound trailers to receiving dock doors. The availability of information relevant to the operation within the facility will assist in coordination between these two functions.

- **Better scheduling for handling inbound shipments.** Enhanced visibility for inbound shipments allows for the timing of certain inbound activities to best coincide with short-term needs for distribution. If high priority shipments are scheduled for arrival, the advance visibility allows for the inbound activity for these shipments to be handled accordingly.

- **Direction for current-day inbound shipments.** In facilities where product storage is classified by product type, visibility into the product residing within an inbound shipment provides the basis for assigning dock doors to shipments that are best aligned with the operations.

- **Labor and capacity planning for inbound activity, both long-term and short-term.** A high level of visibility into the specifics of inbound product shipments allows

for a greater ability to establish a relevant labor plan. This is especially important where the product profile involves a diverse range of activity other than the standard receiving operation (i.e., value-added services such as price ticketing for a certain product or inbound quality control activity for certain suppliers or product). In addition, the capacity of the distribution facility can be evaluated well in advance for required re-slotting activity and for off-site storage arrangements.

- **Reduced sub-optimal, reactive inbound processes.** As a result of coordinated inbound shipment handling and an accurate labor plan, the level of reactive processes can be virtually eliminated. Gone will be the days of half-full trailers left while research is being performed to establish the disposition of the product.

EDI, XML, proprietary format: Why does it matter?

If implementing an advanced inbound information solution has you faced with making a difficult decision regarding the means for communication and the formatting of the information for exchange, then several items should be considered in selecting an approach:

1. *What does my vendor base or manufacturing base prefer?* Informal inquiries with your primary trading partners can yield valuable information on what can be adopted with the least impact to their support structures and systems.
2. *What can I support today through my ERP or WMS?* A quick assessment of capabilities for core systems can be matched against trading partner preferences to determine if a practical match exists.
3. *Do I want to use this information outside of the warehouse?* Downstream customers, retail stores and transportation hubs may be able to make use of the information available in your inbound planning portfolio, especially if product leaves the facility in the state it arrived. For example, carton-level data provided in a detailed ASN may be readily used for the same cartons utilizing retail store systems for streamlined receiving and inventory management. Understanding the capabilities here can provide additional input into the best-fit alternative for data exchange.

Evaluate current use of enabling technologies: What do I already have?

Implementing the foundation for advanced inbound planning does not necessarily require a significant investment in new technology. Often the core requirements for facilitating the information flow may be used by other areas of the company. Some tools in use for other areas of the company may be prime candidates for expansion into the warehouse. Consider the following:

- **EDI tools** used by financial operations for core transactions related to billing to customers, invoicing from vendors and bank transaction processing. The availability of EDI provides a solid and secure foundation for data exchange but the platform can be somewhat cumbersome and inflexible for dealing with trading partners who cannot readily participate.

- **E-procurement tools** used by the purchasing department for everything from raw materials to computers and office supplies. E-procurement provides a flexible means of data exchange, often allowing for communication via electronic file transfer as

well as through a web user interface and can accommodate a broad range of sophistication within your trading partner base.

- **Electronic carrier management tools** used by the transportation department to schedule incoming trailers with freight carriers. These may be currently used in the form of on-line web tools or file exchange using a wide variety of formats. If these are not being used today, they are certainly a low-cost option for completing the inbound planning picture and may be more accessible and flexible than is currently being realized.

Putting it all together: What do I do?

Once the options for the correct level of information to be utilized and the correct means for managing this information have been evaluated, a plan which is aggressive yet achievable is the best means to realize the vision. Key steps in establishing the go-forward plan include:

1. Confirm the tools to be utilized for the pilot launch. Determine the best combination of tools and technologies to be presented to your trading partners for potential use.
2. Identify key suppliers or manufacturing facilities for pilot launch. These are the trading partners who have the most to gain by their participation and have the most to offer in terms of contribution to the overall plan. Keeping the pilot population to a manageable number will allow for open communication regarding feedback and required refinements.
3. Establish a draft to set the rules of engagement and information exchange standards in a collaborative manner with the pilot group. Utilize an open forum based on the preliminary assessment to gain acceptance with the core trading partner base.
4. Execute the model with the pilot group.
5. Update requirements based on internal and external feedback. During the pilot phase, host regular progress review sessions with the pilot base to encourage open feedback for improvements. Also encourage internal feedback to identify further opportunities to streamline the information flow and improve operational results.
6. Expand the population. Once the pilot has been successfully accepted, adopt a plan for incremental expansion to the entire trading partner base.

The last step: Make it stick

Once the successful pilot launch and subsequent roll-out have been established, ensure that the process has the legs required to endure for the long term. Integrating the updated standards for communications exchange with vendor compliance programs or departmental chargeback policies will ensure that the procedures are self-policing and should result in the highest level of performance.

Instituting an advanced inbound planning and execution framework does not require a massive re-engineering effort for the supply chain, but making use of information that is very likely already available with your trading partners and observing a set of rules for utilizing the information most effectively. Putting together a program that follows this general premise is certain to guide the DC operations to world-class results.

About Tompkins Associates

Tompkins Associates is the leading operations-focused consulting and integration firm, specializing in end-to-end supply chain solutions. Customers look to Tompkins' expertise to develop and implement strategies for intelligent solutions in distribution center design, warehouse strategic planning, distribution network configuration, transportation system planning, system integration and implementation, logistics and manufacturing outsourcing, and supply chain optimization. As consultants and integrators for more than 30 years, Tompkins offers a proven track record and deep industry expertise for solutions that reduce costs and improve overall supply chain performance. The company is headquartered in Raleigh, NC. For more information, visit www.tompkinsinc.com.