Cross Docking Concept and 5 Steps Implementation

Cross docking system is relatively common practice in retail supply chain field.

The cross dock warehouse is different from the traditional warehouse in the way that cargo goes in and out a warehouse with minimal storage or without storage.

If you're planning on the implementation, careful planning and business case building is essential. I believe everyone realizes that literature related to cross docking is mostly academic papers on warehouse layout and scheduling .

Through extensive literature search, I've compiled the process of building business case as shown below:

1) Identify Products

Evaluation of appropriate products for implementation is the first stage of building business case. In general, cross docking operations are suitable for various type of products with the below characteristics:

- High value products are usually associated with high inventory carrying cost. Minimizing intermediate storage can help to reduce overall cost.

- Short life cycle products or perishable products will require the prompt shipment. For time sensitive items, it will help to improve the delivery lead-time to end users.

- Service parts logistics or products with the high obsolescence cost can also enjoy the benefit of cross docking. Because, these products should be stored at the upstream level in the supply chain to reduce the forecast error and better inventory management.

- Standardized items that don’t require an incoming quality inspection to avoid delay of operations.

- High demand or high volume products are easier to manage.

- Products that don’t required the special material handling is suitable.

2) Evaluate the Benefit

Benefit of implementation is very prominent. Every trading partners (manufacturer/ wholesaler / retailer) will benefit from this practice. In order to build business case, both quantitative and quality measures should be examined. The list of benefits are presented as below:

- Lower transportation cost due to the consolidation of cargoes at cross dock facility.

- Higher truck utilization will lead to the lower investment in fleet size.

- Intermediate storage cost is greatly reduced then the investment in storage facility is minimal.

- Better truck turnaround time due to more smooth and efficient operations at the cross dock facility.

- Utilization of pallet is higher then the cost of loading and unloading is lower.

- Minimal order picking cost then the labor cost is lower for a cross dock operations.

- Products reach customers quicker due to better flow of products.

- There will be fewer problems with stockouts because retailers can place the orders with higher mix and lower quantity.

- Retail spaces will be used more effectively because retailers don’t have to keep too many stocks under a cross dock system.

3) Determine Operational Requirements

It’s going to be easier if you decide to outsource cross dock operations to third party logistics providers. Anyway, if you want to implement cross docking in your current warehouse, it’s necessary to make adjustment to the existing way of operations.

- There should be adequate, dedicated dock doors for cross dock operations to avoid confusion (in case you still have traditional storage function).

- Try to clear an existing storage area / racks in order to create more space for receiving/shipping flow.

- Try to clear a dock area as much as possible to avoid blockage.

- Improvement in the visual control (sign, lighting, operation flowchart, product labeling, etc) should be considered when you plan cross dock operations.

- Provide enough material handling equipment for cross dock operations.

4) Enhance Information Technology

Cross Docking requires quick and responsive operations otherwise the whole thing will be problematic. Information technology plays the important role in the development of cross dock. Existence of enterprise resource planning software or warehouse management system software seems to be a prerequisite if you handle retail products. Enhancement to existing information system must be made such as:

- Using Edi or ebXML to communicate incoming orders and outgoing orders at a cross dock facility.

- Implementing Advanced Shipping Notice (ASN) to reduce the need to input data of incoming shipments.

- Use Serial Shipping Container Code (SSCC) then each storage unit will have a unique identification. This will add ability to track and trace package.

- Bar code and bar code scanner is a must in order to avoid a manual processing.

5) Conduct Training

The change in internal operations will cause lots of confusion to warehouse staffs. In order to make a good preparation, there are certain things to be done as below,

- Make the update to Standard Operating Procedures (SOP) to accommodate cross dock operations.

- Conduct the trainings based on updated SOP.

- Shift some order pickers to the receiving and shipping areas and also provide additional training about receiving / shipping tasks to existing order pickers.

- Assign one person as Yard Manager in order to solve day-to-day cross dock operations.