Cornerstone Solutions, Inc.

Blueprint for Success

An implementation guide based on 50+ WMS Implementation Projects

Introduction

You know that implementing a WMS can increase your operation's accuracy and efficiency, and ultimately your bottom line. But what you *don't know* can hurt you. With information taken from 50+ WMS implementation projects, this white paper will reveal common mistakes that may negatively affect the implementation process, identify the specific implementation components and the direct impact each has on an operation, provide you with tips for a smooth implementation and help you understand the specific ROI savings you can expect.

Despite all the benefits, implementing a new system can be an overwhelming undertaking. With all the options out there, where do you start (people, inventory, technology)? This white paper provides guidance through every phase of your implementation–from systems integration and configuration to testing and training–helping you achieve the best results from your supply chain application.

Implementation Components/ Considerations

Operational Strategy

The first step when preparing for an implementation is to develop and understand your operational strategy by looking at your supply chain network and overall technology needs. It is key to understand your distribution centers, plants, 3PLs, and vendors/ customers. Where are they located? How can you best meet customer demands at minimal cost? Understanding how each component works together, and if any adjustments are needed, will help you plan your WMS implementation. Skipping this step can actually cause the application to be implemented improperly or at the wrong location(s).

In addition, it's important to recognize technology gaps and technology requirements. Any basic WMS today can run on Linux, UNIX, a Windows environment, AS/400, etc. However there may be one specific system that works better than another on a certain technology.

Beyond this, you must recognize that your IT staff or other parts of your organization may have stringent requirements regarding IT strategy or direction. A lot of companies choose a particular system from an operational perspective only to find out that their IT staff will not support or maintain that system moving forward!

Also, what technology components do you plan to implement? Do you plan to implement just warehouse management or transportation management? Or do you just want to integrate it to a parcel manifesting system from a carrier? If so, is that supported? From a technology perspective, you also need to consider conveyor automation, pick to voice, pick to light, inline printing, etc.

Although these initial elements are very basic, and may seem like common sense, they are essential to consider early in the process to avoid wasting valuable time and financial investments.

Budget Analysis

What is your corporate culture? Is your company used to purchasing or leasing systems? How easy will it be to get a project funded?

Fundamental return/cost considerations are critical as well. You'll need to complete an ROI analysis. There are several options available for ROI development, including developing your estimate independently, utilizing a web-based tool, enlisting advice from a WMS vendor, or enlisting help from a consulting firm.

Cost savings from a WMS fall into several categories such as improved inventory accuracy, reduced inventory levels, space utilization and labor cost reduction. Make sure that when you do a cost calculation that you include all components including printers, servers or RF equipment. Many times, vendors don't include these types of things in their quotes, assuming you will purchase them separately.

Another aspect of your budget analysis should be personnel budgeting. In most cases, the cost of people on staff is often not included in the cost of the project. This may be something you want to review as well.

Team Structure
As you assemble a project team and consider personnel involvement, you will want to prepare the team for the task. Communicate up front that implementing a new system can be an overwhelming undertaking. Implementations take time and commitment, and they aren't simple. The better prepared the team is for this reality the better able they are to handle the task. It's always a pleasant surprise if the process runs more smoothly than they were expecting, than vice versa!

Make sure that all appropriate personnel are involved in your project. A strong project team consists of warehouse/operations personnel, sales, IT, customer service and finance. Operations personnel will ensure that key functions are covered, such as receiving and shipping; financial personnel are going to be very concerned about how inventory is taken care of with the new system and how it interfaces to your ERP; IT personnel must have the right hardware and technical software people involved from the internal IT team, etc. Involving managers and supervisors of these areas, and gaining executive sponsorship, goes a long way in making the project run smoothly, as well.

System Design
Design is a critical step before development can take place. You'll need to take a look at both your Operational Flow & Information Flow. For

operational flow processes, you need to make sure that you have very clear procedures – that you know how your processes are currently working. At this point, you should also look for opportunities to improve your operational processes. The last thing you want to do is automate bad processes. While moving forward with bad processes may give you some slight improvements, you'll achieve nowhere near what you could accomplish if you first reviewed your processes and rolled out improvements and then focused on the technology.

Operational Flow:

System Flow
How is everything going to look and work systematically? Are users going to have to navigate through more screens then necessary?

Product Flow including Material Handling
How is everything going to look and work in the physical world? For example, how is product going to be handed off from a bulk pick area to a conveyer that then brings it around to a carton flow pick area for replenishment? How is the system going to work with this flow? How is the WMS going to hand off the product from the conveyor and how is the conveyor going to move it to the carton pick flow area?

Process Exceptions
What about the instances when what is supposed to happen doesn't? Let's say you go to a location to pick product and discover it is not there. The WMS says it's there, but it's not. Is there a key on your RF screen, for example, that you can use to note that the product is not there, zero out that location and move to another location?

Information Flow:

System Setup—Make sure you include things like getting the product master setup correctly, customer master, and figuring your zones and rules for the WMS. Start early with the setup, as your current system(s) may not have some of the data that is needed – such as item and location dimensions and weights or capacities. WMSes are great at helping you

to manage your warehouse. However, without good and correct information being put into the WMS, you will get "junk" out. There may be some very time-consuming setup areas, such as License Plating (LP). If the WMS you are implementing requires or highly encourages LPs in each location, it may take you a while to get LPs on the product in each location. This would have to be done before going live.

Integration to Enterprise Systems and Other Systems

Be careful when you talk with vendors about the WMS's capabilities with enterprise and other systems (LMS, TMS, YMS). Vendors will often use the word "integrated" when they really mean interfaced. It's important that you understand what is truly integrated in their system and what is interfaced. They have very different meanings and both have the power to impact your operation in significant ways, for the positive or negative. You may want to get into the "bowels" of the WMS technically before buying it in this area, asking to see diagrams or even actual code that shows the interface points, tables, and even columns/fields and understanding how each table is loaded and used in regards to interfaces. Ask what version of SAP, for example, they most recently interfaced with, and if their interface is "certified" by SAP for your specific version. Ask for a reference that has your version of the ERP and WMS, and talk to them.

Material Handing Data Flow

There are several different types of material handling equipment (MHE) that you can and may want to interface with your new WMS – conveyors, pick-to-light, put-to-light, voice, carousels, and even robotics are starting to enter the picture, among others.   Some MHE is a simple interface, such as conveyors where you will simply give the conveyor the box's or tote's barcode along with where it is supposed to go, and in turn get a confirmation back that it actually did go there. Other MHE systems are really a separate system in and of themselves; they function independently.

The WMS sends them, for example, a batch of orders with what is to be picked and/or shipped and the (sub) system does the rest. This is especially true in systems such as voice and robotics, where they take care of picking and perhaps packing after being told what goes into the order.

Check the vendors supposed interfaces to these systems closely. Interfaces in this category are most-often (but not always) custom created for each company, regardless of what the vendor says upfront.

Implementation Approaches

There are various ways you can roll out software across the warehouse:

By Facility

This is the most common of all approaches. It involves implementing your WMS in one warehouse, and then moving on to the second, third, etc. This approach is good because you can get your arms around everything that is going on in one facility. It allows you to concentrate on one operation and reduce your risk. If implementing across multiple facilities over time, however, you'll want to take the other facilities into account when building a "model" upfront, before starting on the first facility.

All At Once

In this approach all product lines and facilities are implemented at once. This approach is not typically recommended because it is a very difficult approach to accomplish and involves a significant amount of risk.

By Process

Implementation by process simply means doing a particular process (i.e. receiving) and then moving to another process like shipping, assembly, etc. The problem with this method is that it is often harder for the computer system to "give up control" in tracking of inventory and orders at a certain point in the process when it's used to not giving up control until the products and orders are out the door and shipped.

By Item Grouping

The downside to this approach, dealing with individual products or product lines, is that the computer system also has a problem because it's used to controlling everything within the four walls of the warehouse rather than only controlling some of the items and locations within the warehouse. This is most often used when you can segment your warehouse into specific items by area of the warehouse or in a new facility that you are moving to, perhaps over time.

Traditional Implementation Components

Testing

Make sure you to do a thorough system test of your WMS. You should also focus on integration testing with other systems, such as ERP, transportation, material handling, etc. A key component involved with testing is to include exception testing.

How do you identify the exceptions? When you go through your initial conference room pilot, you will identify operational exceptions that you may or may not use in the system. But note that you still have to have a process outlined and understand your action plan when those happen.

Also, lean on your implementer, whether it is internal or external. They should have some ideas of what considerations you should look at and what areas are important.

Last, look at your operational folks and ask them the top five things they run into. Find out what issues outside the normal process cause them pain. Utilizing these three suggestions should allow you to hit on 80-90% of the exceptions, and the rest you will be able to handle pretty easily.

Training

Successful implementation projects start training early. The normal process of training is by repetition.

You should focus on training those on the floor along with IT people on the system. Be thorough and cover areas such as how to maintain the system, fix technical issues, database issues, etc. Documentation is often something that is missed in this step. Make sure that all the enhancements that you made to the system are documented. We often recommend that you create a one-page cheat sheet, for people on the floor which outlines how to do their jobs, and also how to handle exceptions.

As you consider training components, take care not to forget exception training. Walk through the exceptions early in the process. Take the top 10 or 15 problems that personnel could run into and make sure the resolution steps are thoroughly documented.

Conversion

Make sure that you test the data conversion well. You do not want to get to go-live weekend and have your IT team doing the data conversion and it not work. These types of issues can take hours or even days to resolve and may ultimately postpone your go-live.

Validation

Validate that operational and technical processes are being followed and work. You should also focus on data integrity—after you have gone live, make sure that everything in the database table is being updated correctly. This is very important because even a very small database problem can snowball and cause huge headaches.

Common Implementation Mistakes

Poor Planning

Facility Planning

Effective labeling---One simple step in preparing your facility is with labeling. This means effectively labeling your warehouse with retro-reflective labeling if necessary, making sure your facility is labeled on the proper levels, making sure things are labeled in order, etc. These are very basic

considerations, but if they are not done properly, they can cause major problems in your warehouse.

Dock preparation---Many warehousing systems require a scan when product arrives at a dock. The problem lies with understanding *where* you scan, and *what* you scan. Do you have something that's human readable on the floor? Do you have something hanging from the ceiling?

Measurable Objectives
What are your goals and your objectives as a company? How about CFO goals or specific goals of the project team? Proper planning and communication are very important. One person or department may view a project as a success if the system is simply up and running, whereas another may define a successful project as being at 100% day one.

Improper Training
Train early & train often! A lot of people forget exception training, training of ALL involved personnel, or choose to train over go-live weekend, all which will cause failure.   Make sure you have reports in place. Consider what kinds of information people will need to run their processes and jobs effectively. This includes things like Operational Training, IT Training/ Troubleshooting, Exception Processing and Reporting Techniques.

Inaccurate Item Analysis
Be aware that item analysis is critical. How do you slot your product? It's important to understand that you may have an A mover in an area that's all pallet picks, but it may be a slow mover in your piece pick area. So, you may not want to put that A item in a fast moving piece pick area.

In addition, dimensional information is critical. Without having accurate dimensions in packing orders or in locating products, you may run into several

different problems and many exceptions when you go live. The goal is to avoid exceptions due to bad data, and only deal with exceptions based upon customer requirements, etc.

Make sure you are ready when you go live with your inventory in the right zones. For example, the product needs to be in each, case, and/or pallet pick areas depending on order profiles.

While it's not always practical to do a complete physical inventory, if you can, the go-live goes much more quickly/easily if you do. If you don't, you may encounter problems (a poor inventory count can create massive exceptions) and financial concerns. Poor inventory accuracy at go-live can have a huge impact on the success of your implementation that snowballs. For example, if the WMS has a picker go to a location to pick 10 eaches, but there are only 8 there, the picker may opt to pick 8 from that location, and then 2 from an adjacent location without telling the system, further compounding the accuracy of the inventory. This may also cause morale issues as well, as already suspicious employees may find more reasons to dislike or distrust the system, when in reality it wasn't the system's fault in the first place.

Poorly Chosen Technology
Another common mistake is with poorly chosen technology. If you choose the wrong type of server, or you have performance problems, you will have major issues both with people buying into the system and also actually using the system once installed.

Printers seem simple enough of a choice. But, the speed of a printer in printing your labels or packing list may slow down your packer to the point of inefficiency, so you need to consider that as part of the operation.

Conclusion

You've read and researched WMS implementations and considered if you can afford the time and money it will take to implement a WMS. When you consider that implementing a WMS…

- can save your organization 15-25% in inventory,
- will provide you with immediate and long term gains because you won't be holding on to inventory,
- will result in improved customer service,
- can provide you with at least 99.9% inventory accuracy,
- will give you access to the tools needed for an ongoing cycle count program,
- can eliminate costs associated with physical inventories,
- can improve accuracy of RF transactions,
- will result in 20-30% reduction in the labor costs to receive and ship the same volume of product compared to a non RF-directed warehouse, and help reduce chargebacks.

       . . . you can't afford *not* to implement a WMS.

Top Ten Tips for a Successful Project

1. Start with a Plan
2. Budget Appropriate Amount
3. Build an Effective Team
4. Set Implementation Expectations early
5. Identify data integrity priorities
6. Test for Exceptions
7. Purchase Appropriate Hardware
8. Make effort to have appropriate SKU mix
9. Train, Train, Train
10. Start with Accurate inventory

About Cornerstone Solutions

Cornerstone Solutions is an independent supply chain management consulting firm, specializing in helping our clients improve their end-to-end supply chain performance through improved processes, increased efficiency and the application of enabling technology. With over 200 years of combined supply chain experience, Cornerstone has the expertise to help clients optimize their operations in ways that will significantly improve customer service and asset utilization while reducing unnecessary investments and costs. Visit us online at www.cornerstones.com or call us at 260-496-8259 x 300.