The Tool Crib of the Future...
Technology Supported Passive Transactions Enhance Processes and Saves Cost

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Sept 2009
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A Challenging Type of Inventory

Indirect material is defined as any inventory that does not go into the final product but is used during the manufacturing process. This includes MRO items, tools, machine parts, chemicals, shop rags and other inventory items. These items play a key role in manufacturing the product but are peripheral to the product being manufactured. This inventory is thought of as a cost of doing business, but in reality, it is a cost of doing business that, with the right technology to define and support inventory distribution, can save millions and dramatically impact the bottom line.

Managing Indirect Materials is Worth It

Manufacturing companies of all sizes depend on indirect materials to keep their plants running smoothly and meet production goals. By properly managing indirect material you are increasing the effectiveness of those processes. Always having those materials needed to complete the task or being able to locate them quickly are crucial to obtaining smooth processes and the goal of becoming lean. Having those items on-hand without carrying too much inventory is a lean principle we always attempt to reach and is crucial when this inventory is attached to a process. Lean is sometimes defined as eliminating or reducing waste. By effectively managing inventory you eliminate wasted money on too much on-hand inventory, wasted time searching for tools, wasted man hours searching for inventory, wasted production time when attempting to locate items and wasted money from pilferage and hoarding of inventory.

Many years ago the obvious way to control this inventory was to centrally locate the inventory within the plant and control inventory in a tool crib. A person or persons would be responsible for managing the indirect material and handing out the inventory to the shop floor workers. Challenges were faced with travel time to the crib and the associated soft costs. Also, a good technology system to manage all the aspects associated with this type of inventory (calibration schedules, inspections, kitting, order points, supply chain mgmt, etc) simply did not exist. Later, to solve the soft cost issues, inventory was moved from the tool crib to locked cabinets or toolboxes closer to the point of use. There was a great challenge in this scenario as well. Either limited staff had access to this inventory, which meant there would often times be lengthy waiting for someone to unlock the cabinet. If anyone had access, you had no wait time but very little control of the inventory. This also created a great deal of challenges especially at the re-order level. Next came vending machines which still often times make sense today for some inventory. The challenge with vending machines is that not all types of indirect material fit into a vending machine. Vending also can sometimes have a negative cultural impact on the workforce that may send a signal of distrust. Thus, we have come full circle and the crib of the future now constitutes a robust software application to assist in managing all of those needed aspects of indirect material with technology that enable Passive Issue Transactions. This is the new breed of tool crib management and provides a way to manage exceptions without hindering the workforce. The future is now.
I Just Want to do My Job!

I can’t say I blame them. They have production numbers to meet, deadlines, and product to produce. How can we leave the responsibility of managing inventory in their hands as well? Really, you shouldn’t ask your workers to do anything except get what they need to accomplish the job. It is management’s job to ensure we have enough supplies on hand. Sounds like a great idea right. Or is it?

For years many companies who have been operating with this FREE issue mentality find themselves in trouble with stockouts, overstock, hoarding and many other challenges that relate to a less than productive work environment. So you want to let your workers do their job and not be concerned with doing any aspect of managing inventory. Leave them a scanner and barcode everything and you have asked them to do something they don’t want to do and often times won’t get done. The problem is not solved. Lock things up in a cabinet and create the perception of distrust and another location to manage inventory levels. The problem is not solved. Leave the crib unlocked on the third shift and let guys get what they need and write it down on a sheet. The problem still isn’t solved. How in the world can we let them just get what they want and retain any level of control?

First, it all starts with software. No matter where you put the inventory and how you access the inventory, if you don’t have robust software that is flexible to match your processes, you are not going to manage inventory correctly.

Second, it requires a technology that will automatically trigger a transaction without asking the operator to do anything. Absolutely no interaction with a touch screen, no stopping or slowing down and maintain a very high level of accuracy. That transaction must trigger all of the necessary information to manage the inventory and the process.

Third, it requires automating reports, purchasing and managing the exceptions.

Enabling Technology

You are probably saying that all of this sounds great but is there any technology that can magically create a transaction out of thin air. The answer is yes and no. If you simply look to a specific type of technology like RFID or scales alone, you will not be able to reach your goal of triggering automated transactions to a robust software system designed to manage indirect material. Although, if you look to products specifically designed to create these automated transactions using this technology, it is available.

If you have undertaken any IT project, you know that attempting to make hardware technologies and software work together for a single purpose from scratch is challenging and often times takes years. If you can buy COTS solutions that plug together to achieve a common goal, the task becomes much easier. At WinWare we have spent 17 years developing solutions to manage indirect material and have a complete line of management solutions that will allow

“Since the introduction of CribMaster at the Ford Dagenham operations plant, they are proud to announce they have been awarded a Grade 7 within the Industrial Material Flow (IMF) accreditation on Lean Manufacturing procedures.” - Kardex Systems UK Case Study, 2001
**Define Your Processes**

In order to make the process improvement needed to run your operation more lean, you must define your current processes. How are you currently managing your inventory? What are the steps an employee takes to get their needed item? Is there travel time? What is the process for reworkable items and possibly gages that require calibration? Is the rework and calibration done off-site and how does that affect purchasing? What is the process for communicating with your suppliers? It is smart to take on this task with a team of people who are affected by these processes. It is important when undertaking this step, the system you choose to help with inventory management can easily provide the necessary reporting to identify and assist with these formal checks for critical operations.

**Document Your Processes**

Now that you have these processes defined, you need to take it one step further by documenting the processes everyone will follow. This step is critical to establishing long-term accountability for employees and allows management to clearly decide when a process is incorrect and needs adjustment. Anytime an error is made in business it falls under one of two categories.

1. The process put in place was not followed
2. The process is not correct and should be properly adjusted

Without clear documentation, it is hard to react and correct either of these two scenarios, but when documented, it is easy to refer to the process and define the process flaws. For example: if something is taking place where production numbers are not being met on a particular job and the operator is saying it is because they had to walk a half of a mile to the tool crib three times during his shift, this process needs to be evaluated. We then can refer to the documentation, formally note a process change, educate the operator on the changed procedure and put in place and monitor the new procedure. The new procedure will probably include means by which the operator will reduce this walk time.

In CribMaster employee procedures can be linked to each employee record so you can keep inventory procedures and inventory records all in one system. This enables a simplified training and an immediate reference guide that can be maintained electronically for update purposes. Procedures can also be linked to assets or items. This is helpful if the procedure involved is attached to a continually rotating position.

*“We’re probably 75 percent faster than we used to be. It’s a huge jump,”* Sgt. Bob Goddard,
Whiteman AFB
Now that you have these procedures defined and documented it is time to implement the new process change. Following the next 4 steps defined in the RIDE process will make an easy method of implementing these process changes. This reflects back to the first statement on page 2 of this document; “Getting your tool cribs and store rooms to operate more Lean requires plant level management focus.” it is the job of plant level management to maintain the RIDE process for each change to defined and documented processes.

The RIDE process can be used to help correctly implement these changes, ensure procedure compliance and identify and address procedure changes. The RIDE acronym simply identifies a monitoring mindset that will remind management to clearly think through the steps needed to implement change. It is simply that, a reminder as to the steps for effective monitoring.

1. REPORT - The most critical step to monitoring. Can you easily obtain the information needed to continue the RIDE process? Is it time consuming and cumbersome to report on inventory transactions that will help identify process issues? It is critical that any inventory management system or method ensure easy reporting on any aspect of inventory life. Again, the most critical step to monitoring.

ex. Report on the difference of 1st and 2nd shift cutting tool usage by job.

2. IDENTIFY - The second step to accurately monitoring is identifying. Once the report is generated, accurate inventory analysis can take place. Identifying areas for improvement should be the focus of your reporting. You run the example report listed above and identify double the usage of the same tool for the same production amount on second shift.

3. DECIDE - Now it is time to make an educated decision on what is causing the discrepancy that has been identified and the steps needed to correct it. In the example listed, the discrepancy can only be an operator error. If the machine is only misusing tools on a single shift than it can only be an issue of an operator running the wrong turn speed, not turning inserts or maybe using less cutting fluids. Decide on the best way to handle the issue.

4. EXECUTE - Execute your decided solution. Now you address the operator problem with increased employee training and increased accountability.

The RIDE process will continually help improve processes and tighten inventory usage.
Leveraging Soft Cost Reduction

**Reducing Travel Time**

Part of the continual improvement process of indirect material management is reducing soft costs. After you gain control of your inventory and processes as they are currently, it is time to look for more cost savings and reducing travel time to store rooms or tool cribs is an immediate solution. But how do you retain inventory control at those locations and also retain the reporting capabilities that got you the improvements up until this point?

In order to effectively gather correct usage information you need to track individual usage transactions. In other words, you can issue or transfer items from a main store room to a locked cabinet next to a machine, but how do you know how much is actually being used and when? How can you identify discrepancies of operation if you aren’t tracking actual usage? The correct way to effectively reduce travel time is to locate items at point-of-use but retain actual usage information.

Another key part to this is being able to track and order that inventory in either a total plant quantity or at the point of use device. By tracking and ordering items at a plant quantity, you reduce the number of purchase orders and enable greater quantity discounts. By ordering by point-of-use device you can enable distributors to manage inventory within that machine without effecting the inventory counts of the rest of the plant. Either way, you need to have a system that will do both. More importantly you need to have point-of-use devices that completely tie into your indirect material inventory management system. No matter where your inventory is stored or distributed, it needs to be managed in one cohesive system to see the greatest cost reduction.

**Reducing Down Time**

Another soft cost that should be immediately impacted by proper inventory management is down time. Reduction of down-time, although considered a soft cost, can be a very impacting figure to your bottom line. Think about the costs involved with down time. Each time that machine is shut down you are losing production time and labor cost. These are significant costs and can be reduced dramatically with an effective inventory management and preventive maintenance system to help establish the procedures needed to keep things running. CribMaster inventory management system has taken the need to reduce downtime seriously and is the only system available that combines a high-end indirect material inventory management application, point-of-use distribution devices and a full-blown CMMS application in one cohesive system.

**Cost Reduction Worksheet**

The following page is a cost reduction worksheet that was created through averaging implementation results of CribMaster of nearly 300 customers. By filling in the sheet you can expect to see what your company can expect to save by properly structuring, managing and implementing the CribMaster system. This is your initial installation savings and you will continue to save costs by expanding your continual improvement initiatives to include point-of-use dispensing, preventive maintenance or many other cost saving solutions.
Obtaining Corporate Views for Supplier Negotiations

Price Breaks from Corporate Supply Contracts
Back to the basics. The ultimate leverage you have when negotiating contracts with suppliers is order quantity. You certainly stand a greater chance of getting a better deal on 70,000 pairs of safety glasses rather than 10,000 pairs of safety glasses. Do you have a system in place where you can confidently attempt to establish corporate contracts based on actual usage figures (not order figures) of each of your facilities? Do you have a single system that has tracked usage, ordering, maintenance tasks and optimized inventory levels for each of those facilities?

Wouldn’t it be nice to be able to run a usage report on every common mro item or tool to all of your facilities? If you can clearly see actual usage of like items across your entire enterprise, you can negotiate contracts with confidence that you are not over purchasing your indirect materials. With CribMaster all of your indirect material inventory are linked by a common item number and when used with a CM Data Warehouse, you have enterprise wide reporting at your finger tips. Optimum order quantities, optimum inventory levels and enterprise-wide transferring and reporting...an incredible impact on your bottom line.

One Location Contract
10,000 Pairs of Safety Glasses Yearly = $6.00 per pair
25,000 Carbide Inserts = $43.50 per 10
25,000 Drills = $2.00 each
5000 Vice Grips = $14.00 each

Corporate Contract
70,000 Pairs of Safety Glasses Yearly = $3.50 per pair
175,000 Carbide Inserts = $33.50 per 10
175,000 Drills = $.95 each
35000 Vice Grips = $9.00 each

Contract Savings
$420,000 vs $245,000 = $175,000 difference
$761,250 vs $586,250 = $175,000 difference
$350,000 vs $166,250 = $183,750 difference
$490,000 vs $315,000 = $175,000 difference

TOTAL COST SAVINGS = $708,750 with 4 products
Where Do We Go From Here?
Have you ever taken on a project and mis-judged the true potential when finished? Have you ever taken on a project only to realize that finished improvements are really only the start? Have you ever planned to impact cost savings and processes and you effectively accomplish your goals, only to realize there is a lot more room for savings? Inevitably even the best of planners end up asking the question, “Where do we go from here?”.

When responsible for business improvements, there is no worse feeling than not having a cut and dry answer to that question. Many managers find themselves challenged with making multiple management systems work together to accomplish the next step. Many managers mis-judge the cost and time associated with the IT development needed to get to the next level of improvement. That is why it is so important to have a complete understanding of the expandability and flexibility of the system you are planning to purchase.

Flexible, Customizable and Extremely Expandable
CribMaster has led the way and continues to lead the way as the most feature packed application to manage indirect materials such as tools and MRO supplies. CribMaster software developers understand the importance of being flexible and have developed CribMaster to be a very ‘option heavy’ application. Beyond that CribMaster has several *.exe applications that work with the system to serve many different purposes, such as; preventive maintenance, system monitoring, automation assistance, remote management, and communication with point-of-use devices. All one system, managed in one application with one goal...total control.

Anatomy of a Better Solution
There are several ‘big picture’ reasons why CribMaster is the better solution for managing indirect inventory.

- Communicates with CribMaster point-of-use devices and several other manufacturers so you are not limited in choices of plant floor distribution methods
- Multi-facility data warehouse proven in diverse corporate installations like the Boeing Company where WinWare received “Supplier of the Year” honors
- ‘Option Heavy’ application allowing you to turn on or off features to fit your processes
- Ability to create custom fields linked to database tables to enable easy application customization
- Ability run on several database types; Access, SQL, MSDE and Oracle
- Very powerful report generation and management using Crystal Reports
- Easy ‘Flat File’ integration methods
- Smart purchasing capable of generating order points based on usage and easy communication with other systems