Problem 07

COUNTING SHEEP

Let's start counting

E215 Warehousing and Storage Topic Flow

Introduction to warehousing

Racking and equipment

Whole cycle of warehouse processes and racks location system

Packing and palletizing

Physical inventory count and cycle count

Performance indicators and benchmarking

Order picking method

Economic and non-economic consideration for warehouse Site

Principals of warehouse layout based on functions

Segregation of storage area

Technology

Safety

Cost models

Learning Objectives

- Prepare and conduct Physical Inventory (PI) in warehousing

- Prepare and conduct the various types of Cycle Count
  - Block method
  - Ranking method

What is Physical Inventory (PI)

- PI is the activity of counting all inventory within an organization or facility and reconciling the counts with the inventory records.

- Usually requires the shutting down of the warehouse and operations for the duration of the count and reconciliation process.

- Done on a periodic basis (annually, quarterly etc) based on company policy (customer or warehouse).

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Purpose of PI

- The primary purpose of doing a PI is to ensure that the product on-hand quantities in your records reflect correctly what are actually on the shelves in your warehouse .

- Accuracy in the location system alone will provide tangible improvement in warehouse productivity

- Inaccurate inventories can impair a company's ability to plan materials requirements and cause uncertainty in financial planning

- Accurate inventories will improved customers satisfaction.

Problems that may arise during PI

- Inexperienced, poorly trained counters, eg. unable to identify the items.
- Inadequate time and resources to investigate discrepancies
- Confusion over open orders and allocations
- Accumulations of unidentified inventory
- Safety problems
- Staff's lack of interest and ownership, and perceived unimportance of the PI
- Poor morale

Preparation for PI (part1)

- ## Create a map of your warehouse

    All locations that have inventory that needs to be counted must be in this map

- ## Divide the warehouse into count areas

    Stock takers should be assign to area where they will count all the inventory in that area. Assigning stock takers by product may create chances of missing out certain items and it may not be efficient due to distant travel.

- ## Count slow moving items before the actual PI.

    This is reduce the actual number inventories to count and we do not expect this items to move within a week or two. But these items must be tagged to indicate that they are pre-counted and if there are movement, proper records must be in place.

Preparation for PI (part2)

- Prepare count plan

  - Determine all resources and timings

- Train and educate the staff on the importance of physical inventory

  - Specific tools, forms and procedures

- Paperwork and forms

  - Design and preparation of count tags and reports

Preparation for PI (part 3)

-   Data and programs

    -   Prepare all info and programs for count

-   Prepare inventory

    -   Identify and label all inventory, and mark out those inventory that are not part of the count

-   Prepare facility

    -   Physically marked out all storage and staging locations

Procedure

- Based on the cut-off times, all inventory in the warehouse will be counted from wall to wall

- Inventory count sheets are given to the stock counters.

- Each sheet is numbered and an admin staff will record down which sheets are given to which stock counters.

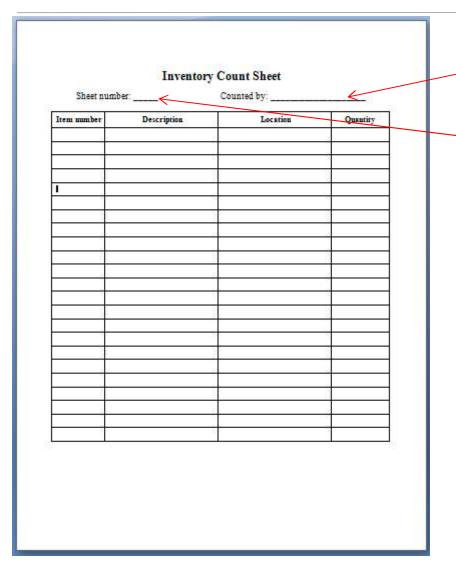- Stock counters to sign on the record

Reconciliation of count

- After all the inventory counts have been entered, a variance report is run to check for any discrepancies
- If there are external auditors, make sure that they audit as soon as the counters finish a small section, so that mistake can be quickly rectified and if recount is required, the impact will not be that big.
- If a recount is necessary, counters and verifiers will go to the location with discrepancy.
- Ensure all inventory count sheets are returned
- Variances are investigated and approval to make inventory adjustments will be given by the management

Example of Inventory Count Sheet

Inventory Count Sheet

Sheet number: _____   Counted by: _____

Item number	Description	Location	Quantity

Name of stock counter

Running number

- Item number, description, and location are downloaded from WMS.

- Quantity is left blank. This is for the counter to write down.
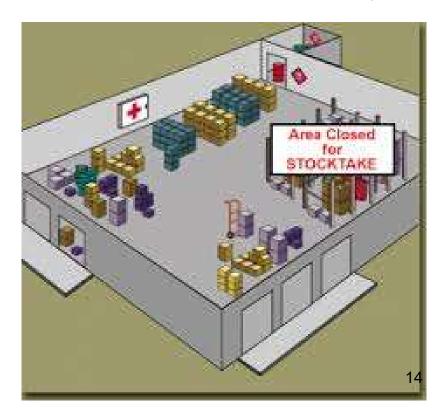
Tips on PI

- Ship everything you can before the physical inventory begins

- Do not move displaced material while you count

- Do not fill orders (ship) or receive material during the count process

- After the stock take and audit exercise, have the team in for a post action review to find out what was done well, and what need to improve.

What is Cycle Count?

- Cycle count is a process that verifies the inventory data by counting only small portions of the inventory on an ongoing basis
- This sample of the total inventory can be easily compared to the inventory records

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Purpose of Cycle Count

- Cycle counting improve inventory accuracy as any discrepancy will be surfaced during the cycle count and need not wait to the PI.

- It is also to achieve excellence in customer service and optimize the effectiveness of internal operations. Since the inventory is continually being counted, when errors are identified, there is an excellent chance to define the cause of the error and take corrective action

- This brings up the phrase that a "cycle counting program should be self-eliminating", in that by improving processes to eliminate the root causes of errors you will ultimately increase accuracy to a point where cycle counting is no longer necessary

PI vs Cycle Count

- Cycle counting was developed because of frequent and severe problems in the accuracy of traditional PI

- As cycle counting has matured, auditors have recognized that the procedure is usually far superior to the traditional PI

- However, PI requirements are still enforced by corporate policies, as companies need to accurately report the value of their inventory and other assets

Methods of Cycle Counting

- ## Geographic (or Block) Method

- ## Ranking Method

Geographic (Block) Method

- Start at one end of your warehouse and count a determined number of items per day until you have counted your entire inventory at least **4** times per year

- High productivity as travel time between counts is eliminated when counting down the aisles

- As every inventory in the location is counted, lost or misplaced items can be discovered

Ranking Method

- Also known as, ABC Cycle Counting
- Counting the faster-moving or high-value items more frequently than the slower-moving items
- Based on "Pareto's Law"
  - The 80/20 Rule (20% of the items in inventory account for 80% of sales or cost of inventory or transactions)
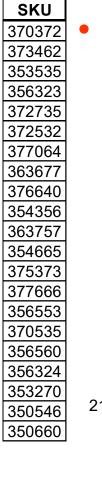
Ranking Method

- A-B-Cs of cycle counting
  - Approximately 80% of a warehouse's throughput is typically attributed to 20% of the SKU (A items)
  - Next 15% of a warehouse's throughput is typically attributed to 30% of the SKU (B items)
  - Next 5% of a warehouse's dollar is typically attributed to 50% of the SKU (C items)
- Recommended count schedule
  - "A" Rank Items 4 – 6 times per year
  - "B" Rank Items 3 times per year
  - "C" Rank Items 1 – 2 times per year

Ranking Method

- ## From 'Transactions' spreadsheet:

Class	Count frequency per year
A	4 – 6 times
B	3 times
C	1 – 2 times

SKU
370372
373462
353535
356323
372735
372532
377064
363677
376640
354356
363757
354665
375373
377666
356553
370535
356560
356324
353270
350546
350660

- ## 'A' items:

Ranking vs Block

Example:

Given that a company has 25,640 total items, 6,000 in "A", 8,240 in "B", and 11,400 in "C", compute the number of items that needs to be counted daily based on both the method of cycle counting (Block and Ranking). The company wants to count 4 times per year for all items for Block Method and it prefers **conservative** approach for Ranking Method.

- Note: You may assume that there are 300 working days per year.
- Solution:

Block Method: 25,640 items / 300 days = 86 counts per day

86 counts x 4 times per year = 344 items per day

Ranking Method: (A) 6,000 x 6 = 36,000

(B) 8,240 x 3 = 24,720

(C) 11,400 x 2 = 22,800

Total Counts: 83,520 /300 days = 279 items per day

Ranking vs Block

- From the simple computation shown on the previous slide, Ranking method
  - will result in counting less items per day
  - enable the fast moving/high cost items to be counted more frequently.
  - pay less attention to low cost/slow moving items.

Stake Holders of Inventory

- Finance
  - needs the figures for accountability of the value of the company's inventory. This data is also required for balance sheet, calculating of the company's turnover, and other financial documents.

- Sales
  - needs to be sure what is available to sell and deliver before they can promise customers. Unfulfilled promises will lead to unhappy customers.

Stake Holders of Inventory

- Operations
  - needs to pick and pack the items thus location becomes very important.

- Auditors
  - are usually engaged to ensure integrity of the PI results and figures

Suggested Solution

- Implement cycle count to minimize cost
  - Recommend ranking method
  - Count the high value items more often. Customers will also have more confidence.
- Preparation
  - Create a map of your warehouse
  - Divide the warehouse into count areas
  - Train workers
  - Prepare count plan
  - Count slow/non moving items first
  - Get ready paperwork and forms
  - Get ready data and programs
  - Prepare inventory
  - Prepare facility
- Must have a process for reconciliation.