

By Louis J. Malucci, CPIM

Cycle Counting Opinions Abound

Evaluating your counting needs

This department answers technical questions regarding problems in production and inventory control. Readers are invited to contact Louis Malucci, CPIM, or Karen Lovecchio, Ph.D., APICS National Research Committee, Center for Integrated Manufacturing Studies, Rochester Institute of Technology, P.O. Box 9887, Rochester, N.Y. 14623; (585) 475-2098; via fax at (585) 475-5240; or at apics@rit.edu.

Reader A.D. of Pennsylvania called in with the following question: "With respect to ABC categories, how many times a year should we be conducting cycle counting?"

More than one pundit has explained the theory behind this interval determination as follows: Closely control the significant few and ignore the trivial many. Of course, there are many ways to do this. Let's take a closer look.

Personally, I am wary of counting often. Counting too much may replace good numbers with bad ones. Exactly who goes about conducting the physical inventory? Temps, office clerks, and other personnel usually take the reigns, and these individuals probably don't know a cam shaft from an integrated circuit. People err in identifying materials, write illegibly, and create inaccuracies that weren't there to begin with. The key is selectivity, with respect to frequency and the items being counted.

The ABC's

Paul Bernard defines A items as the top 5 percent and says they should be counted monthly. The next 15 percent are B's and should be counted quarterly. The remaining 80 percent are defined as C items and only require an annual count. This is a common approach.

Although cycle counting is based on ABC analysis, some experts believe there are only two classes: A and C. This stems from the Pareto theory that 80 percent of the values are represented by 20 percent of the parts. Still, it is important to keep in mind that inventory items of very small value are just as likely to shut down production for lack of parts as are expensive ones.

Nevertheless, it is true that A errors tend to be more devastating than C errors. For this reason, cycle counts of A items are a clear way to avoid some year-end surprises. Norman Kobert makes the following suggestion: "A items, which represent 5 percent of the parts and 30 percent of inventory value, should require [an] accuracy level of 99 percent and should be counted daily."

Issues to consider

According to the June 2004 issue of APICS magazine: "A material's counting schedule is determined by considering its importance and how many times per year it should be physically verified. For example, an item that has a history of inaccurate counts or that will cause big problems in production if counts are imprecise should be counted more frequently."

Some other factors to take into account when determining cycle count selection and frequency include the following.

The cost of the item on a per year basis. Rather than expend time, energy, and expense to count inexpensive, high-volume items, simply keep more on hand.

The inventory carrying cost of an item. In my opinion, this is an over-rated factor in many calculations. The elements of the calculation, such as

risk of obsolescence, insurance, security, and storage space, are too often unquantifiable.

The cost of performing the counts. In other words, don't spend \$100 to solve or prevent a 50-cent problem.

The protective level required, meaning, the relative criticality of the item to avoid stopping production. Consider the effect of a stockout on the production schedule.

The usage rate of an item. There is a correlation between the likelihood of variances with the frequency of inventory movements.

The mean and changeability of the variances or an asset error that is introduced per usage of transaction. These can be the results of data entry errors, incorrect unit of issue, and the like. This issue exposes the situation of relative versus absolute errors, meaning the effect of compensating errors each in the opposite direction in value.

The best advice we can offer our caller is to optimize all the factors explained above and determine, through an item-by-item assessment, the value of each one's accuracy. Then proceed accordingly. ■

Resources

Bernard, Paul, *Integrated Inventory Management*, Ollie Wight Manufacturing Publications, 1999, page 211.

Kobert, Norman, *Inventory Strategies*, Boardroom Books, Inc., 1979, page 59.

Kobert, Norman, *Managing Inventories of Cost Reduction*, Prentice-Hall, 1992, pages 244-245.

Janson, Robert L., *Handbook of Inventory Management*, Prentice-Hall, 1987, pages 102-103.

Sheikh, Khalid "Perpetual Motion," APICS magazine, June 2004.