



Distribution Center MANAGEMENT

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Managing people, materials and costs in the warehouse or DC

From the Golden Zone

How to avoid four common errors when measuring system performance

By Don Savage

When a warehouse manager suspects poor system performance, the first step is typically to check the data. Unfortunately, more than 50 percent of the time, system performance is measured incorrectly. Data is only as good as the methods used to calculate it; if something is measured the wrong way, the results will be wrong. This may lead to the justification of system changes, or even an entirely new system, based on imprecise data.

When gathering data for our clients, we make a point of explaining our methodology and then of applying those measurements to both the existing operation and new system designs. Through the course of this analysis, we often expose errors in the existing system data caused by poor measurement techniques. This sometimes results in a change of direction; rather than planning a new system, we find we can modify the existing one.

Following is a list of four of the most common errors managers make when measuring performance.

1. Flawed pick rate measurement

A surprisingly common error in many distribution operations is the pick rate measurement. Many managers complain of low daily or hourly pick rates. Upon investigation, we find that pickers are only picking between four and six hours, but management is measuring that output against an

eight-hour day. This translates into low pick rates on a spreadsheet, but it is completely inaccurate.

It is critical that all rates are measured against the time actually worked. This makes for a more complex measurement, but it gives you a much clearer picture of the true capabilities of the existing system. It is also a good indicator of wasted or available time throughout the day.

2. Inconsistent flow of work

Many operations are unable to provide employees with a steady flow of work, which can be a serious problem for batch picking systems. The lack of constant work could be the result of IT issues, a lack of orders in process, or even a deficient routing system for passing orders.

Pickers cannot pick at high rates if they don't have enough orders. In fixed position picking systems, this lost time cannot be recovered and daily pick rates may plummet.

The best way to track this is to measure the number of orders present in each zone throughout the day in short time increments (five-minute intervals). Although it sounds tedious, this is an exceptionally important measurement because it directly verifies the effectiveness of the order routing and starting operation. If full batches are not available on a constant basis, pick rates will not reach their

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maximum. Changes should then be made to move more orders into the zones.

3. Organization of operations

Many operations do not organize tasks in a way that fills available time; they are pushed into a linear process instead of a concurrent one.

Because a separate measurement against time is necessary for each one, the time required for each operation is usually overstated.

Systems often operate in sporadic bursts of work with time left over in between. You can't fill that time appropriately if you don't know when and how long it is. So the first step is to measure this over a period of several days so you can see those time windows. If there are gaps in the work available, these should be filled with other tasks, which may mean combining different tasks in the same time frame (picking and replenishment, for example).

4. Not accounting for peaks

It is not uncommon for an entire day's work to get compressed into a few hours due to response commitments or shipping requirements. In this situation, some managers still measure their efficiency rates over an entire day rather than in actual time. In addition, when more workers are

assigned to zones, they are frequently not included in the rate measurements. This leads to over- or understating rates for both the day and peak times.

If work is condensed into a specific period of the day, then measure the rate for that time period and the number of people working concurrently; this gives you your maximum rate per person. You can then use that rate and the peak window to plan the rest of the operations for the day, which may mean different labor assignments during peak and slack times.

Before planning a new system, be sure to measure your existing operation; you cannot accurately measure any improvements in the future if you don't quantify where you started. And remember: The most important rule of operations measurement is to measure everything against the actual time used for the task. This allows you to plan the working day around the real time required for a task instead of reacting blindly and throwing resources at it.

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