

## TEN STEPS

## IN SKU PROFILING

BY ALAN MCDONALD,  
FORTE DOD EXPERT



Since the commencement of warehousing, operators have searched for the most efficient method to store and retrieve inventory. For a long time, finding this solution was very challenging, as SKU data was very difficult to gather, and even more so to process. Now, however, technology has developed to the point that anyone with the right inventory tracking system and a desktop PC has the resources to at least perform a rudimentary analysis of their products.

One important thing to remember, however, when using the results of a product assessment is you must recognize and remember the potential shortcomings of your analysis. The proper steps to SKU profiling must be made in order to store product in the right type of storage and picking media while also having enough locations dedicated to each SKU.

### 1. SET A GOAL (AND STICK TO IT)

People profile their products for a variety of reasons. You may want to determine the cost of or justify the purchase of new equipment. You may want to fine tune existing systems and equipment. Your goal may be to reduce picking and/or replenishment labor. Or, perhaps you are simply trying to make the processing of the 20 percent of SKUs that make up 80 percent of your lines more efficient. Whatever the goal, it should always be top of mind when performing an analysis. Getting off track to explore unrelated information is not useful and can be a large waste of time.

### 2. FIND THE TRUTH

Getting data that truly represents what is going on in their operation is sometimes the most difficult step for companies. First, the data must be gathered from the right source. For example, data from Enterprise Resource Planning and Warehouse Management System software will not necessarily be the same. Just getting the data isn't enough, either. Remove orders and/or lines that are not valid or were not processed using the system. The amount of data collected should be representative of your business climate and the frequency with which you are going to perform this analysis. Keep in mind the less obvious issues that affect spikes in your product demand, such as the amount of seasonality, new product introductions and promotional giveaways. Getting cleaned up data is the only way to truly know the facts. Bad data will lead to bad results every time, regardless how thorough your analysis is.

### 3. EDUCATE YOURSELF

Research the marketplace to select the right tools for your operation. There are a wide variety of types of storage and picking media, all having different characteristics. Do you want the operator to travel to each pick location or the product to be brought to the operator? Do you have consistently sized products or a wide variety of differing sizes? What requirements do you have from a lines-picked perspective? Do you need a tool flexible enough that adding resources can increase picking output? How flexible does the equipment need to be regarding re-profiling items? Can picking and replenishment be performed concurrently?

### 4. MAKE IT FIT YOUR SYSTEM

Now that you know the potential solutions available, you must determine which ones can be incorporated into your business. Not all solutions are adaptable to all situations. If you require strict lot control in picking items or follow FIFO rules, this could restrict the type of storage media you consider. Does your system bring the tote/shipping carton to the pick location, or is the order picker required to retrieve it? Do you pick all of your items as full cases, all as split case picks, or some combination? Are these different types of picks going to be performed in the same physical space? If they are going to be separated, your analysis should also be separated by type of pick, since an item that is popular as a split case SKU might not be a popular full case SKU. If you are planning on processing these separately, do your operations provide you the room to consolidate the orders downstream of picking?

### 5. LOOK INTO THE FUTURE

Historical data may not accurately reflect the future for a SKU or product family. Demand for this SKU may increase much more than the current historical data shows because of the release of a new product. Adversely, demand may be predicted to drop off because of a scheduled product retirement. Business units or acquired product lines to be brought into your facility data will not be reflected in the current demand data. This type of information may not be accessible to you, so you may have to work with other disciplines within your organization, such as Sales, Marketing, and Research and Development.



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## 6. DETERMINE REPLENISHMENT FREQUENCY

Even the best SKU profiling can look terribly inefficient if not enough resources are dedicated to replenishing it. The amount of labor dedicated to replenishment tasks will determine how much of each product must be kept in your pick location. Dedicating more resources will enable you to run leaner, allowing for more SKUs in a smaller area.

For some SKUs, a minimum number of units are required to be stored in your picking locations. This will help ensure that the product is there when needed. For other items, an average amount of demand can be kept in this pick location. Doing so will keep enough product in the location to cover most days' demand, but it might allow a small blip to exceed what is available in the location. Your tolerance level for an out-of-stock situation and acceptable time period for processing an order are the determining factors here.

## 7. PERFORM A REALITY CHECK

Step back and scrutinize your initial results. Computers are very good at crunching numbers, but they do not "know" your product, facility, or business climate like you do. It does not know if you want items that are always ordered together close to one another to minimize the number of stops while picking the order or if you want to balance the work load by separating them. The software may assign an item, such as non-conveyable or aerosol products, to an inappropriate storage media. You may want to increase or decrease the number of locations allocated to some products. In addition, putting several smaller items in a given space instead of one larger, slightly faster-moving item is a more effective use of this real estate.

## 8. PLAN AHEAD

Think through the reconfiguration process step by step. Are you going to "create" orders to pick the balance of the item from each location, or will you allow the item to deplete naturally through the fulfillment of incoming orders? The latter might not be efficient enough if the item has had a downturn in demand. Does your software provide the functionality you will require to efficiently move the product? Do not assume that you can flip a switch and your system will be re-configured overnight. Depending on the type of equipment, re-allocating locations to new items might take some time in addition to the actual movement of the product. Unless you have seasonal demand in which you can take advantage of a lull, this effort could have a noticeable effect on productivity.

## 9. PERFORM THE RECONFIGURATION

The analysis will be for naught unless the reconfiguration is executed. Putting it off until a better time may guarantee that it never occurs. For rapidly growing businesses, there is no better time to increase operational efficiency to support that growth. Cutting out inefficiencies lowers your bottom line.

## 10. ANALYZE THE RESULTS

Prior to profiling your product, select some relevant performance metrics and monitor them for a while. Then, after reconfiguring your products, analyze these same metrics to measure your success. While the benefits might be noticeable without these measures, it is beneficial to have quantifiable results down the road.

All companies benefit from establishing a continuous improvement culture throughout their supply chain, and SKU profiling should be established as a key initiative within this effort. SKU data should be evaluated and system reconfiguration should be done on a scheduled basis in order to optimize operations and maintain Distribution On Demand. The frequency of analyses performed is determined mainly by a company's business climate. Companies with very dynamic SKU bases due to seasonality and new product introductions/retirements should perform an analysis more often than companies with mature products that have steady demand over time. Ultimately, the amount of efficiency gained from profiling products will indicate the best frequency for your particular business.

*Alan McDonald is a DOD improvement advisor with FORTE, a distribution operations improvement (DOI) firm specializing in the plan, design, implementation and optimization of automated distribution centers. FORTE can be accessed at [www.forte-industries.com](http://www.forte-industries.com) or by calling 513.398.2800.*



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