PROCAT DISTRIBUTION TECHNOLOGIES

PRODUCT LOCATION PLANNING

Best Practices for Laying Out Bin Locations and Developing a Bin Naming Convention

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BEST PRACTICE #1: WAREHOUSE LAYOUT

Before adopting a location naming convention, review your overall warehouse layout. Whether you're expanding an existing facility or developing a new one, evaluate your space for inefficiencies as well as safety issues.

1. Design for growth: Warehouses are often designed to handle a defined amount of product, with some degree of volume increase expectations built in. However, as volumes increase, warehouse operations teams will take shortcuts, which will have ramifications down the road. We always recommend to take a long-term perspective when planning your space.

2. Design for traffic: Ensure you've considered aisle spacing and traffic barriers. Congestion doesn't only cause slower picking, but creates safety hazards for your staff.

3. Design for efficiency: Create pick zones based on product type, which will simplify picking and restocking because similar items are grouped together. Locate the most popular products near each other, to reduce travel time needed for pickers to get to high volume products. It's common for distribution centers to keep vendor products together. However, with today's distribution software, this approach simply isn't necessary. And in fact, it might even add to inefficiency. Thanks to the ability of software tools to quickly identify and use bin locations, products can be arranged based on other factors, such as sales volume, or weight, or cube.

4. Design based on item size: Larger and heavier items make more sense to be on the floor or lower shelving units. This allows for more accessible and safer picking of bulkier items.

BEST PRACTICE #2: WAREHOUSE INVENTORY NAMING CONVENTIONS AND FLOW

Bin location names are a key component for both stocking and picking your products. It's not just pickers that need to understand bin locations for outgoing product. Stockers and those responsible for put-away of incoming product, must also know bin locations, to place stock in the appropriate places. Every physical space used for picking or backstock should have a location name, and every location should be clearly labeled.

The first step in developing your bin naming structure is to determine how many segments you will have. A common system starts with a zone or section, then works downward by aisle or row, to rack or bay, to level or shelf, then to position or bin.

The terminology may differ, but the concept remains the same. Each segment should follow the same protocols throughout your facility. For the sake of this example, we'll use some common, standard terms that might vary slightly by company.

Zone/Section /Area

This is the largest breakout of inventory. A zone should be defined by general characteristics of the product, such as frozen foods, produce, or dry goods. A common practice is to assign a letter (i.e. A, B, C) to each pick zone/section/area.

Aisle

Each aisle within the section or zone should be identified by either a number or letter, starting with the aisle nearest the entry to the section. Very large warehouses may find that numbers provide an advantage over letters because the alphabet is restricted to 26 options. However, it is a common practice to sequentially assign aisles A-Z, then doubling up on the letters to create more aisles (i.e. AA, AB, AC).

Rack/Unit/Bay

The rack, unit, or bay is typically the space between upright supports of the shelving unit. When numbering these spaces, you have options, such as a standard naming approach or "serpentine" design. How you name the locations in your aisles, will determine the sequence that the products are selected by your pickers, and the way products are positioned on a pallet or placed in a shipping container. The ideal naming sequence for your operation is dependent on your warehouse, your products, and your order profiles.

A standard naming approach is to have all racks ascending from the same direction, so that aisle AA might contain racks 01, 03, 05, etc. from left to right on one side, and racks 02, 04, 06, etc. on the other side. The picker will be able to select items from both sides of the aisle as they walk it. They enter the next aisle and travel to the front of it to start picking. In this model, the naming convention is the same in all aisles, which simplifies finding pick locations for replenishment.

Some warehouses choose to reduce picker travel time by alternating the direction of the numbering of the racks. Aisle AA has the rack numbers start near the main aisle, while Aisle AB has the rack numbers start at the other end of the aisle, away from the main aisle so pickers pick products up one aisle and then back down the next. This serpentine approach works on the premise that pickers weave up and down aisles. Aisle AA might contain racks 01, 02, 03 on one side working left to right, but racks 04, 05, 06 on the other side would flow right to left. The picker ends at the same spot they started. This layout is simpler to understand but results in doubling the steps each picker takes every time they pick orders.

Level/Shelf

While it might seem common sense to work top to bottom on shelves, a practical approach to naming this segment works from the bottom up. Why? When you add vertical space to your rack, you can continue counting upward without having to re-label your shelves and change the inventory coding. You might consider allowing multiple levels to have the same location name to allow for extra stocking of certain products with high volume sales or that take up large amounts of shelf space. Pickers can pick products from any level without negatively impacting the inventory quantities in the Warehouse Management System (WMS). Common level names are a single digit: level 1 representing the floor, level 2 representing the first shelf, level 3 representing the second shelf, etc.

Bin/Position

The bin or position is typically the smallest segment in a naming system. Bins will obviously vary by size, depending on product, and are generally numbered left to right when facing the merchandise.

Ultimately, a bin location will have an assigned name that looks like: Zone – Aisle – Rack – Shelf – Bin. There are competing points of view on whether it is best to work strictly in numerals or to include letters in the numbering system.

On one hand, incorporating alphanumeric characters helps avoid confusion between location name and SKU number. On the other hand, incorporating letters can slow the picking process because the brain doesn't process alphabetic order as quickly as it does numeric order. Common bin positions are a two-digit number: Position 1 on the shelf is 01, for example. Common location names are AB01-101, AB01-102, etc. These locations would be found in Area A, aisle B, rack 01, level 1, position 01 and position 02.

Regardless of how you use letters and numbers, be consistent. Nothing can disrupt pick operation like a confusing or frequently changing system.

BEST PRACTICE #3: ONE SKU PER PICK BIN LOCATION

Placing multiple SKUs into a single bin location may be a quick fix for the never-ending issue of product proliferation, but it can hamper productivity and contribute to picking errors. Unless your pick process is based on scanning product barcodes, avoid slotting multiple products in a single pick location.

As the demand for carrying greater selection increases, avoid the temptation of taking this corner-cutting approach in your warehouse. To accommodate additional products, increase the number of locations through stackable bins or other containers, and keep individual SKUs in their own homes. Otherwise, your pick rate, error rate, or both, will suffer.

If space is limited and requires you to increase the number of SKUs per pick bin, then investing in a hands-free barcoding solution will be key to increasing accuracy in your order picking.

BEST PRACTICE #4: ORDER PICKING TECHNOLOGY

The most effective way to build a well-planned warehouse inventory location system is by tapping into the power of technology. Technology tools can streamline the process by developing the most productive picklists and analyzing your output to determine where inefficiencies may occur.

The arrangement of your inventory might lend itself better to single-order, multi-order, zone picking or batch picking, and data can help you determine which works best.

PickRight, by ProCat Distribution Technologies, is an order picking solution that uses hands-free barcode scanning. It has a 99.9% order accuracy. Using a picking system such as PickRight, combined with a well-thought-out plan for warehouse layout and bin locations, can have a tremendous impact on your warehouse's efficiency. PickRight customers report 90% reductions in customer claims caused by picking errors. Picker productivity increases 20% to 40% with the addition of technology. PickRight makes use of real-time label printing to save costs of preprinting labels.

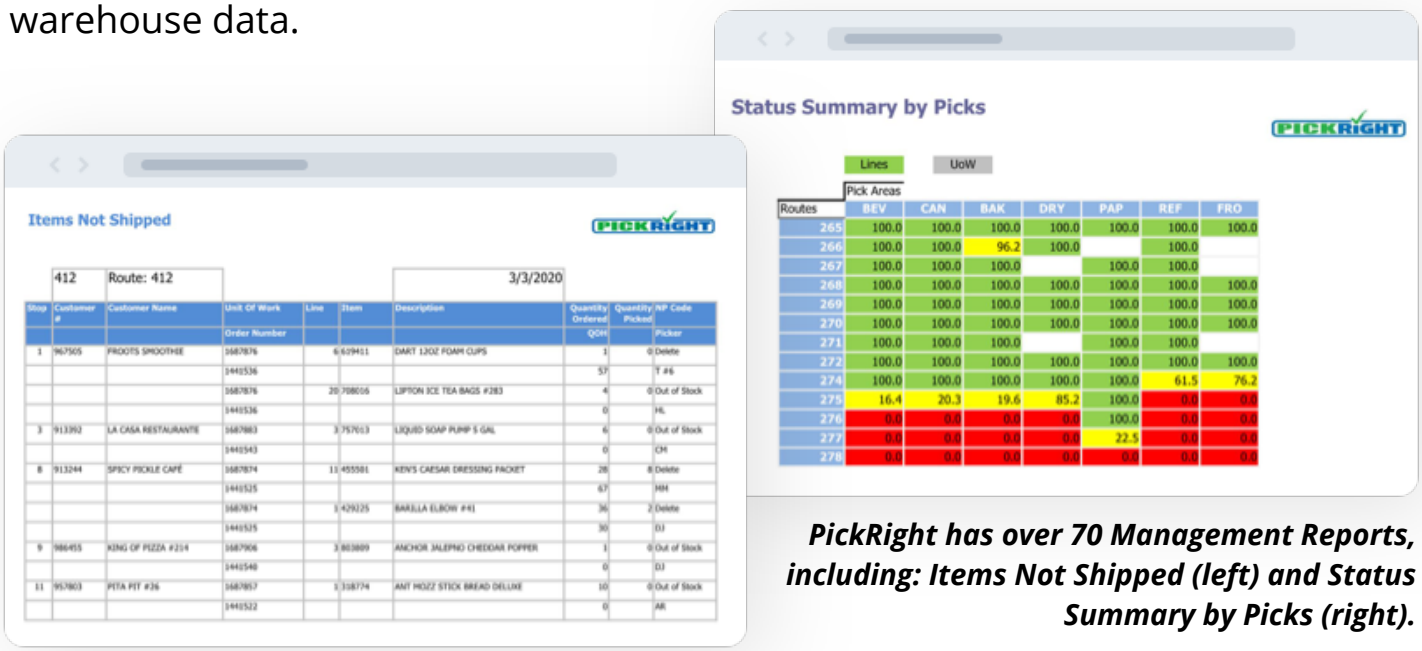
PICKRIGHT BY PROCAT

BEST PRACTICE #5: USE REAL-TIME METRICS TO TRACK WAREHOUSE DATA

You can't improve what you can't measure. Fortunately, with today's software technology, you can measure warehouse efficiency. More than ever the focus is on speed, but speed can be the enemy of accuracy. Because customers' expectations have evolved, so too have the demands on suppliers.

Technology and software systems can provide visibility into the warehouse like never before. Real-time metrics are just a few clicks away. Not only order status or inventory details but even individual employee performance can be managed. By measuring and analyzing results, you can gain insight into the inefficiencies that may be limiting your facility.

PickRight by ProCat has an expansive real-time reporting suite that gives management minute-by-minute insights and visibility into the performance of their distribution centers. For example, with a PickRight Pick Area Summary by Picker report, the pick rate for each picker by area is listed and can be compared against a target pick rate for the pick area. This helps management understand who their strongest and weakest performers are. Reports enable management to determine the nightly pick shift completion time and can efficiently place pickers in certain areas to expedite pick shifts based on actual warehouse data.



PickRight has over 70 Management Reports, including: Items Not Shipped (left) and Status Summary by Picks (right).

BEST PRACTICE #6: TRAIN YOUR WAREHOUSE STAFF

Does your warehouse layout pass the “temp test”? Warehouse staffing is in great demand, and turnover is a constant concern for managers, especially in a low-unemployment-rate economy. To attract and retain top talent, your system must be easy to learn and use.

How do you determine if your warehouse location system is simplistic and effective? One way to find out is known as the “temp test.” If you were to bring in a temporary employee, would that person be productively picking in your distribution center within three hours? If the answer is “yes,” you have an effective product location system.

About ProCat Distribution Technologies

ProCat Distribution Technologies is a software company specializing in barcode scanning picking solutions for distribution centers. ProCat focuses its customer base in the Convenience and Foodservice industries. PickRight does not require a WMS and can interface with current ERP systems. The picking solution includes an extensive reporting suite with over 70 reports to help with shift management. In addition, PickRight features real-time label printing, providing immense cost and time savings, removing the requirement for pre-printing labels. Based in southern New Jersey, ProCat's help desk answers questions, provides software upgrades, and troubleshoots your issues.