

Room to IMPROVE

By Curt Barry

Assessing your back-end operations can help you find and fix problems you weren't aware of

It's all too easy for a cataloger to become complacent when it comes to operations and fulfillment, adopting the attitude "If it ain't broke, don't fix it." Indeed, if sales and profitability look good, and there aren't any glaring fulfillment issues, you may conclude that your operations are running smoothly.

But if you're not doing regular operations audits, how can you know for sure? You may be missing out on an opportunity to increase the efficiency of your operation – and to add to the bottom line.

You can identify areas for improvement with an operations audit, which takes a quantitative and qualitative look at the productivity and accuracy of your fulfillment operation. Most catalogers aim to reduce costs, better satisfy customers, and boost profits. Before you can make changes to meet these goals, you have to measure the various components of the operation.

An effective operations audit enables you to measure productivity and accuracy. It also allows you to compare your measurements to your in-house goals as well as to industry benchmarks. Once you gather the information and make the comparisons, you'll be able to draft a plan for improvement.

Getting started

Before you begin the audit, gather as many source materials as possible, including internal operations reports, returns reports, customer satisfaction surveys, secret-shopper surveys, quality assurance sampling results, and call center monitoring reports.

You'll also need to apply the right types of calculations to get a true

picture of productivity. Chief among these is your cost per order (see "Reducing the Cost of Your Orders," CATALOG AGE, March 15, 2000). The cost per order is just that: what it costs you to take and fulfill customer orders.

The call or customer contact center typically generates about half of this cost. The other half stems from your fulfillment operation – from generating order pick tickets through shipping the package to the customer, as well as the warehousing functions, stock replenishing, and returns processing.

The average cost per order in 2000 for an in-house call center and fulfillment operation was generally found to be from \$7 to \$10; in 2001 that average has increased to be from \$9 to \$13, according to F. Curtis Barry & Company's surveys of some 75 companies. If you outsource your call center and fulfillment operation, the total cost per order typically averages \$11 - \$14.

Area No. 1: Labor

Labor is incontestably the most expensive area on your profit-and-loss statement, so it's important to get the most for your payroll dollar. You must consider five key areas in the labor portion of your operations audit:

■ **Productivity.** This is simply a measure of the number of units or orders moved in a given amount of time, either by employee or by department. You should calculate the number of orders per man-hour or the average number of orders handled per full-time equivalent (FTE), a standard that makes work comparisons possible if you employ both full-time and part-

time workers. In other words, two part-time workers working 20 hours a week would be equivalent to one full-time employee working 40 hours a week. If you have 10,000 man-hours of work a year, and ship 10,000 orders a year, the labor costs would be one man-hour per order.

■ **Cost of labor.** You can divide the cost of labor into two parts. Direct, or "touch", labor involves physically moving merchandise; it accounts for a full 50% of your fulfillment costs (not to be confused with your total cost per order). Indirect labor – clerical workers, managers, administrative staff – accounts for 17% of your fulfillment costs. (General overhead costs, packaging materials, and building rental costs account for the remaining 33% of overall costs.)

■ **Turnover and training.** The effect of your turnover rate is difficult to quantify, but rest assured, it is significant. The turnover rate itself can be derived from a simple calculation: if you need 100 people to run the business, and every year you need to hire 10 people, your turnover rate is 10%. If your work force changes frequently, productivity is likely to suffer, as group after group of new employees works through the learning curve to reach full competence. Most companies give one to two weeks of training, but it may take much longer for workers to reach full efficiency, depending on the complexity of the job. By contrast, a stable workforce that knows the processes can continually work toward new efficiencies.

Speaking of training, the efficiency of your training process also affects

your labor costs. Don't overlook the obvious things, such as documenting training procedures or having adequate manuals on hand, that will make a difference in the effectiveness of your training efforts.

■ **Local labor market.** Your local labor pool will also affect productivity and costs in a way that may be difficult to measure but can have a significant impact on your operations. A low unemployment rate may mean that you have to pay higher wages to hire the quality of worker who can achieve the productivity levels you desire. Unfortunately, the local economy is largely beyond your control, which is all the more reason to get a handle on the factors that you can control.

■ **Intangibles.** Bottlenecks or procedural snafus are drains on your workforce productivity. For example, is there an excessive waiting time between receiving and putaway? Is your replenishment team lagging behind the picking staff? If so, pickers will be idle for substantial amounts of time, reducing their overall productivity. In busy periods, does excess product pile up in the aisles, slowing movement of merchandise through the warehouse?

Area No. 2: Facilities

The next area to examine is the fulfillment facility itself, to determine whether you are using warehouse space efficiently and cost effectively.

■ **The cube.** First, evaluate the storage capacity of the facility. Make sure you are effectively using the whole "cube" – both the horizontal square footage and the height of the racking. Storage, picking, and packing area together typically account for 70% to 80% of the warehouse space. You may be able to optimize stacking height, racking, or layout. For example, if you have a 30-ft.-high building, and your racking is only 10 ft. tall, you are wasting 20 ft. of vertical space and should consider investing in taller racking.

Make sure each department has enough space to function effectively as well. And don't forget that products move two ways: inbound (receiving

and returns) and outbound (orders shipped). Using the same doors for entry and exit slows down productivity. Be sure there are enough doors to handle your current carrier load. The appropriate number of doors depends on a combination of the size of the items you are shipping, volume, the frequency of delivery, and more. If you don't have enough docks, trucks will be waiting to deliver, which is a waste of time and money.

Also be sure that you have ample dock space for staging and inspecting received merchandise as well as for shipping it. If you have a 30-ft. dock and you have a 40-ft. truck delivering a full load, you're going to have a problem. In such tight quarters, you may end up moving the same product several times, which adds to your intangible costs.

■ **Costs.** Comparing your own results with industry benchmarks will help you get an idea whether your costs are in line. Typically, occupancy costs (lease or depreciation costs of building and equipment, utilities, maintenance, taxes, and insurance) add up to 21% of the total fulfillment dollar. Beyond that, you can calculate fulfillment costs using benchmarks based on the size of your facility. For example, the typical facilities cost per order (again, not the total cost per order) at warehouses smaller than 150,000 sq.ft. is \$4.97. For facilities larger than 150,000 sq.ft., it's \$4.65.

You can also compare your number of orders processed against industry averages. The average facilities cost per order is \$5.43 for warehouses that move fewer than 1 million orders a year and \$3.22 for those that move more than 1 million orders a year. You should also calculate costs based on conventional vs. automated warehouse benchmarks. The typical cost per order is \$5.17 for a conventionally equipped facility and \$4.50 for an automated facility.

You should also chart average sales per 1,000 sq.ft. of warehouse space (the overall industry benchmark is \$500,000 to \$750,000 million) and average orders processed per square foot of the warehouse (the benchmark, according to our studies, is 6.9 orders).

■ **Seasonality.** Since your warehouse will operate differently during

peak and off-peak seasons, your audit should take both into consideration. In fact, peak season is a good time to put your systems to the test; during this period of frenetic activity, you'll see whether your space is sufficient and whether your systems hold up.

Whenever you perform your audit, keep your peak-season needs in mind: Be sure you have enough storage capacity; account for procedures that change during peak season; and determine how long it takes to pick, pack, and ship an order during your busiest and slowest periods.

■ **Maintenance.** Your cost of occupancy goes up as your house-keeping standards go down. Congestion, poor lighting, cracks and bumps in floors, and general lack of proper maintenance will slow work and put your employees at risk of accidents that drain profits.

Dirty conditions can result in dirty merchandise, which in turn can result in returns. Dirt and dust can also hinder the operation of bar coding equipment, automated conveyances, and mechanical sorting devices. What's more, our experience has been that the productivity, morale, and retention of your workforce will be higher in a tidy workplace. In conducting your audit, you should check out the overall conditions of the property – whether trash is removed promptly, whether there are areas of clutter that create bottlenecks, and whether the lighting is adequate, among other factors.

■ **Scalability.** Once you've considered the present, think about the future. Is your facility flexible enough to handle changes in your business, forecasted or unexpected? Can it accommodate growth? Just because you ship only hard goods today doesn't mean you won't expand your product line to include soft goods tomorrow. You don't want to create an infrastructure so inflexible that you can't make changes to your product line. And while you might not need more space immediately, it's not a bad idea to have a contingency plan.

The amount of space recommended for an expansion is generally a linear function, based on the amount of forecasted growth. For example, if you have 100,000 sq.ft. in your warehouse, and you forecast 25% growth, you

would need to add 25,000 sq. ft. But this is only a guideline, as factors such as the number of inventory turns and seasonality of product may affect space requirements.

Area No. 3: Workflow and procedures

These areas are often the easiest in which to make improvements because they are quantifiable. Your goal here is to minimize the number of times a product is handled and the number of steps your crew has to take to move the product through the facility to be shipped.

- **Flow charts.** Develop two flow charts – one detailing how product moves from receiving and returns through replenishment, and the other detailing how customer orders typically move from pick ticket generation to shipment. Then create a checklist of items to consider as you trace the movement of goods through the facility.

Take note of how its layout helps or hinders workflow. What is the “level of interference” in the flow of merchandise, and what are its causes? For example, if you must walk through the picking area to accomplish a return at the back of the building, you are creating a lot of activity that would interfere with progress in the picking area. Are you using conveyors wherever possible rather than walking through the warehouse to bring product from Point A to Point B? Work paths should be designed to minimize travel between them.

- **Slotting systems.** Your slotting program, which determines where a product is placed in the primary picking area, will affect picker efficiency. For instance, you can choose from velocity slotting (based on how fast specific SKUs are moving) and weight and volume slotting (based on SKU size and weight).

But don't think your choice should be cast in stone. The ideal slotting system gives you flexibility. Do your primary pick areas have different sizes and types of slots? Can backorders be cross-docked directly from receiving to the packing station? How often do you reprofile your primary pick slots? This should be a dynamic process. And is it

easy to identify merchandise and locations quickly?

- **Materials.** For some companies, productivity suffers because they forget the obvious: They don't keep enough materials – shipping cartons, dunnage, pencils, clipboards and the like – at the work station for the warehouse crew to do their jobs.

- **Quality control.** Identifying errors early saves money and should be a part of your process. The cost of an undetected error can be as much as \$25 to \$50. You need to identify the source or cause of the error – the wrong item shipped, a damaged item, an item that was supposed to be gift-wrapped but wasn't – and then fix it.

Area No. 4: Systems

Your warehouse management system (WMS) should be the brains that guide your entire operation and provide the functionality and flexibility you need. Make sure it supports your efforts to maximize space and labor efficiency, and that it's easy to adjust. Your WMS functionality should include:

- **Inventory.** Inventory management is your WMS' most important function. It should track product by SKU, quantity, location, and transactions against location, and should ensure inventory accuracy.

- **Bar coding.** Bar coding will help you track productivity in four-wall inventory tracking (receiving, stock putaway, picking, packing, and shipping) and in productivity by individual, activity, and/or department.

- **Replenishment.** Your WMS should control movement of goods, through the use of minimum- and maximum-inventory triggers. It should also monitor demand quantity in waves of pick tickets, to make sure sufficient quantities are in the forward pick location, and look for opportunities to cross-dock backorders, thereby bypassing the steps of putting product back on the shelf.

- **Pick ticket selection.** The WMS should enable you to print and sort pick

tickets in a variety of ways, depending on your immediate goals.

- **Pack verification.** You should be able to scan items to check accuracy before shipping.

- **Tracking.** Your WMS should track orders throughout the fulfillment process and integrate order status to your customer service department.

- **Returns.** Your WMS should minimize steps for processing returns, keeping costs low.

Springing into action

Once you've gathered and analyzed all this information, you'll see patterns – and ideas for improvements.

Implement changes gradually to minimize their impact on employees. Too many changes can be overwhelming or discouraging to employees and can actually diminish productivity.

Rather than trying to do everything at once, it's wise to make up a short list of those changes that will have the greatest impact, and start there. And by all means, if a large capital investment is required, make sure you calculate return on investment before plunging ahead. Develop a prototype on paper, circulate it to management and labor, and get feedback. When everyone agrees that the plan is as good as it can be, then it is ready to be implemented and accepted.

Most important, after completing your initial audit, don't lose the momentum, or the valuable measurement tools you have taken the time to devise. Set up easy-to-read daily and weekly productivity and costing reports to help keep the pulse of the operation. If you make operations audits a part of your standard operating procedure, gains in accuracy and productivity will become a regular occurrence in your operation. Who says there isn't always room for improvement? ■

Curt Barry, President of F. Curtis Barry & Company can be reached at 1897 Billingsgate Circle, Suite 102, Richmond, VA 23233; by phone at (804) 740-8743; or by e-mail at cbarry@fcbco.com (Web site: www.fcbco.com).