



# Distribution Center MANAGEMENT

Managing people, materials and costs in the warehouse or DC

## Warehouse Management

### Measuring your perfect order performance can help you target areas for improvement

Are you measuring your operation's ability to deliver perfect orders? Should you be? According to Edward H. Frazelle, Ph.D., while the perfect order metric is not itself a flawless measure, it can give you a very clear picture of how well you are satisfying your customers.

Frazelle, who is president and CEO of Logistics Resources International, Atlanta, defines a perfect order as one that:

- is entered correctly
- is filled completely on the first request
- is picked accurately with the right quantity of the right items
- arrives at the right location
- arrives on-time — whenever you told the customer you would have it there
- is damage-free
- is documented without errors.

#### The weakest link

Because the perfect order percentage can't be any greater than the lowest link, Frazelle says, the perfect order metric demonstrates "that a chain is only as strong as its weakest link."

Take the operation that thinks it is doing pretty well, performing at 93 percent and

above except in two components of the perfect order measure. Yet the overall perfect order measure is a dismal 48 percent, as shown in the following:

Entered correctly . . . . .	98%
Filled completely . . . . .	98%
Right amount of right products . . . . .	72%
Damage-free . . . . .	96%
On-time . . . . .	93%
Right location . . . . .	94%
Perfect documentation . . .	89%
No invoice or collection errors . . . . .	93%

Each of the conditions has to be met in order to achieve a perfect order, which means multiplying each of the individual metrics together. In the example shown here, only 48 percent meet all the criteria.

It's not uncommon for companies to discover such a disappointing performance when they first measure their ability to deliver perfect orders, Frazelle says. "Usually the number is so low that it creates a high sense of urgency for making improvements," Frazelle observed during a presentation at the Council of Logistics

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Management conference this fall.

To begin capturing a perfect order index for your operation, first identify what your company considers a perfect order.

Identifying the right targets for perfect order goals and then measuring each of the elements will let you know how well you're doing in each. This enables you to identify the problem areas so that you can focus your attention on them.

Make sure that you include all of the elements that are important to your customers. For example, imagine that your performance in all categories except error-free documentation is 100 percent, but that your ability to deliver error-free documents is 12 percent. Having an overall perfect order measure of 12 percent would generally trigger a lot of activity around improving that performance.

"But what if that 12 percent is not what's most important to customers?" Frazelle asks. You may invest time and money that could achieve greater results if invested elsewhere. So ask customers what's important to them rather than assuming that you know.

You also have to weigh the cost of performance, and consider the trade-offs when developing your perfect order metrics. "100 percent may not be the goal for every element," according to Frazelle.

After you develop a balanced set of indicators, he suggests, follow a four-step process:

- Estimate by element what your current performance is.
- Conduct an internal audit. Sample a group

## The high cost of poor quality

Orders per year — 35,000

Component	Current Performance	\$ per imperfection	Cost of poor quality
Order fill rate	80.00%	\$100.00	\$700,000
Right picking quantity	97.00	50.00	52,500
Perfect item selection	97.00	50.00	52,500
Error-free order entry	97.00	300.00	315,000
Error-free documents	95.00	45.00	78,750
Delivered w/o damage	96.00	200.00	280,000
Delivered to correct location	99.00	150.00	52,500
Delivered on time	90.00	100.00	350,000
Perfect order percentage	59.33%	Total	\$1,881,250

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of orders before they leave the warehouse, and track your performance according to your definition of the perfect order.

- Also conduct an external audit. Go to customer locations and sit at their receiving dock, monitoring shipments coming in from your facility. "This can be very powerful," Frazelle observes.

- Gather customer feedback. While asking customers for their feedback on your performance generally won't give you the level of detail needed to capture perfect order measurements, you may uncover some valuable information.

## The cost of poor quality

"If you want to get really serious," Frazelle says, "try to develop the cost of imperfection." Figure 1 shows a breakdown of the cost of poor quality per component of the perfect order measure. Determining this data will fur-

ther focus your improvement efforts, help you set priorities, and enable you to justify quality initiatives.

One example is investing \$140,000 in a global positioning system (GPS) to help you improve your on-time delivery from 90 percent to 93 percent. The improved performance would pay for the GPS and achieve \$105,000 in additional savings. Or you may invest \$120,000 in improved load planning. If you can boost the percentage of loads delivered without damage

from 96 percent to 98 percent, you can recoup the investment and generate an additional \$140,000.

The typical percentage of perfect orders, Frazelle says, is about 40 to 50 percent. "The more complex your logistics, the worse your perfect order percentage is likely to be," he says. So one of the steps you can take to improve your perfect order performance is to simplify your logistics processes. "You may have too many SKUs, too many suppliers, even too many customers," he says.

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