

Digging Through the WERC Distribution Metrics Study for 2008

Distribution Performance Continues to Hold or Improve Across Most Key Metrics; Raw Materials Inventories Appear to Skyrocket

SCDigest Editorial Staff

The Warehouse Education and Research Council (WERC) recently released its "DC Measures for 2008," the annual report compiled by **Dr. Karl Manrodt** of Georgia Southern University and **Kate Vitasek**, Managing Partner at Supply Chain Visions and an SCDigest columnist.

This is the fifth such report, based this year on survey responses from almost 700 respondents, relatively evenly split between larger, medium and smaller companies. New this also was collaboration between WERC, the Material Handling Institute of America (MHIA) and the Manufacturing Enterprise Solutions Association (MESA) to standardize various metric definitions.

Highlights from the report were recently released by Manrodt and Vitasek. The full report can be accessed or purchased at the WERC web site.

Most Common Metrics

This metrics study is really focused at a distribution center level, not the broader supply chain. With that in mind, the most commonly used DC metrics are listed below, with the percentage of respondents using each metric:

On-Time Shipments: 88%
Order Picking Accuracy: 75%
Annual Workforce Turnover: 70%
Fill Rates – Line Item Level: 69%
Fill Rates – Order Level: 69%
Peak DC Capacity Used: 64%
Average DC Capacity Used: 63%
Inventory Capacity by Dollars/Units: 62%
Dock-to-Stock Cycle Time: 61%
Distribution Costs as Percent of Sales: 60%

The one big change in the list was the turnover

In looking at the data, Manrodt and Vitasek note that "leading industries such as grocery retailers are beginning to think outside the box and begin to institute a number of cross organizational metrics to better measure overall performance versus company silo performance."

metric, which rose to from 8th place in 2007 to 3rd in 2008, as companies are obviously increasing concerned with DC labor issues.

Comparison Across Industries

For most metrics tracked in the report, such as on-time delivery percentage, inventory accuracy, picking accuracy, and order fill rates, there were relatively small differences in median performance levels between industries. Even so, small absolute differences can actually be quite important. For example, the 2.4% difference in order picking accuracy between general manufacturing (97%) and retail (99.4%) actually would represent a large cost difference resulting from picking errors, and probably does represent the results of a different level of focus on this problem between the two sectors.

A couple of other areas stand out. As shown in the graphic nearby, for example, the annual associate turnover in retail distribution, at 18%, was well

Digging Through the WERC Distribution Metrics Study for 2008 (Con't)

TABLE 16. MEDIAN AND BEST IN CLASS PERFORMANCE OF MOST POPULAR MEASURES BY INDUSTRY										
Measure	MFG – General		Consumer Products		Retail		Life Sciences		Third Party Logistics	
	Median	Best	Median	Best	Median	Best	Median	Best	Median	Best
On Time Shipments	98	99.52	98.6	99.78	96.45	99.04	98.8	99.74	99.5	99.98
Order Picking Accuracy (Percent by Order)	97	99.6	99.1	99.93	99.4	99.8	99.35	99.838	99.575	99.99
Annual Work Force Turnover	10	2.4	11.1	5	18	<1	13.7	8.5	10	2.8
Fill Rate Line	97.5	99.01	98.1	99.32	98	99.92	97.25	99.36	98	99.78
Fill Rate Order	96	98	97	99.5	98.7	99.99	96	99	99.5	100
Peak Warehouse Capacity Used	85	99	94.1	100	96	100	85	94	100	105
Average Warehouse Capacity Used	85	90	84.8	90.63	90	95	86	88	85	90
Inventory Count Accuracy by Dollars/Units	99	99.92	99.75	99.9	99.8	99.99	99.9	99.99	99.92	99.98
Dock-to-Stock Cycle Time, in Hours	11	3	5.75	4	12	3	9	4	5.25	2

Source: WERC/Manrodt and Vitasek

above most other sectors. 3PLs seemed to rate their performance higher than all other industries in almost every category. Whether this is reality, a desire to look good on the part of the respondents, or differing views on how the metric should be calculated is not clear.

Some Metrics Show Consistent Improvement

What we found perhaps most interesting was the list of metrics for which performance that had changed the most over the past three years. Most of these changed for the better – for example, the percent of back orders as a percent of total orders dropped from a median of 5% in 2005 to just 1.9% in 2008.

Lines picked and shipped per person hour rose from a median of 21 in 2005 to 35.3 in 2008, while cases picked per hour went from 110 to 120 over the same time. The percent of orders shipped complete rose from a median of 96% to 98% in 2008, which sounds high to us but that’s what the data says.

One metric that declined substantially was “Days on Hand of Raw Materials,” which the study data found rose from a median of 20 days

in 2005 to an incredible 61.9 days in 2008. Manrodt and Vitasek attribute the change to the fact that “more and more companies are acquiring their materials overseas. Unless the company is shipping by air, they are likely to see an increase of 4 weeks (30 days) of incremental inventory because of product being held in inventory as it is transported over the water.”

True, but the level of increase from 2005 to 2008 still seems abnormally large. There may have been some other issue with how respondents answered the question, though the data was really consistent for high performing companies too, where Days on Hand rose from 10 to 20 over the same period. We wonder if it could simply be an issue of the respondent – distribution managers may not have a clear view of manufacturing inventories.

In looking at the data, Manrodt and Vitasek note that “There has been marked improvement in companies’ ability to deliver with regard to the Perfect Order. And executives are supporting measurement as a key practice in most organizations. Lastly, leading industries such as grocery retailers are beginning to think outside the box and begin to institute a number of cross organizational metrics to better measure overall performance versus company silo performance.”