

WERC[®]

DC Measures

2018 Snapshot in Time

COMPLETE 2018
DC MEASURES
REPORT AVAILABLE
ONLINE AT
WERC.ORG

“A foolish consistency is the hobgoblin of little minds.”

—Ralph Waldo Emerson

Top Measures for 2018

HIGHLIGHTS OF THE FULL REPORT

As we look back over 15 years, the biggest trend in this study has been the closing of performance gaps between *best-in-class* and *major opportunity* performers. However, *consistently maintaining performance on most of the measures still eludes everyone*. Best-in-class performers (respondent top 20%), saw performance decline on 50% of the 34 measures. Median performers, who represent the midpoint of performance, fared similarly as 53% of the measures declined in performance. Major opportunity performers, who are the bottom 20% of respondents, did the worst with declining performance on 74% of the measures (**Table 1**).

With the competition heating up for warehouse workers, rising wages in fulfillment-saturated metropolitan areas, and a lack of investment in maintaining pace with changing technology many companies are unaware how far behind they really are. Therefore, as companies start to focus on digital transformation in their supply chains, we wanted to know how prepared warehouses and DCs are to tackle this change.

TABLE 1. PERFORMANCE INCONSISTENCY

Performers	Decline % / #	Improved	Maintained
Best-in-Class	50% / 17	3	14
Median	53% / 18	6	10
Major Opportunity	74% / 25	2	7

Consider this: An article in the *Journal of Business Logistics* surveyed logistics executives on what their future automation plans were over the next decade. Over 50% of respondents stated high-speed sortation, conveyors, and picking systems. Another 30% were considering automated storage and retrieval systems (AS/RS) and robotic vehicles¹. *That was in 1991*.

We're still working on implementing basic technologies and automation in warehousing and distribution and it's 2018. A number of improvements have been made since 1991 and 2008, but technology continues to advance at a rapid rate and implementation lags in warehousing to drive more efficiency in our processes.

When we consider three elements of success within the context of DCs: people, process and technology, the results are pretty eye opening.

Continued >>

¹Dadzie, K. and Wesley Johnston, "Innovative Automation Technology in Corporate Warehousing Logistics," *Journal of Business Logistics*, (1991). Vol. 12, No. 1, pp. 63-82

PEOPLE STILL REIGN SUPREME

Last year, 66% of the respondents ranked people as their primary importance. This year, that number went even higher, as 71% of respondents stated that people were their primary importance. Our findings suggest that people are still the critical link that keeps the supply chain running. This makes sense to us, as logistics is still very much a people-oriented business. Additionally, our findings suggest that companies that focus on people perform better on almost every metric across the *DC Measures* study!

PROCESS EXCELLENCE

Results show that companies continue to find ways to get better. Even as this year's results plateaued a little, we still see constant improvement in the DC. So, where is this improvement coming from? It is our observation that companies continue to find ways to improve their processes. In fact, every improvement that companies experience can generally be reflected through improved people, through better hiring and training practices, or better processes. This connection is clear, as 89% of the respondents suggested that people and processes were the primary importance in their firms over the past two years.

TECHNOLOGY UPDATE

We collected data on technology adoption in 2008 and it made sense to look at how firms have progressed over the last 10 years. We were a little surprised to find out that 57% of the respondents last year and 64% of respondents this year do not use workforce technology despite the benefits of those systems. These results suggest that perhaps technology adoption and utilization is not as important to the DC as we hypothesized. While workforce technology may not be an indicator of total tech adoption, it caused us to question how companies were doing overall with tech adoption. Perhaps we were overestimating the impact of technology on the ability of DCs to serve the supply chain effectively and efficiently. So, this year, we decided to dig a little deeper to understand where firms were in the technology adoption.

PERFORMANCE = HIGH PRIORITY OF SENIOR LEADERSHIP

Senior management's interest in the metrics study remains quite high. Those who report directly to the "C Suite" and/or the Board of Directors increased 10% to 31.3% from last year. In addition, the number of respondents who report to Senior VP increased as well.

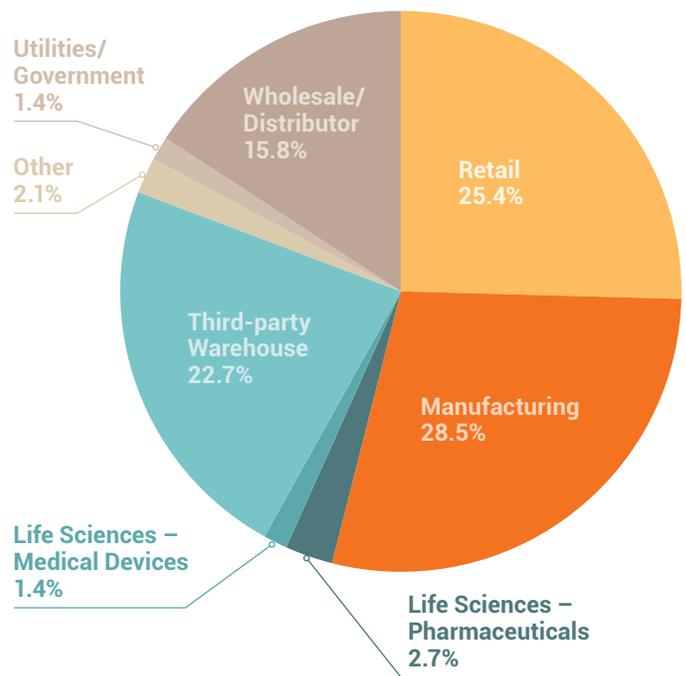
DIVERSE INDUSTRIES, OPERATIONS AND FIRM SIZES

The study received 549 individual responses. Since not every question was answered—and to increase the predictive powers of the benchmarks—responses from 2017 were added to this year's data set after validating that there were not significant differences between the two years. The largest group of respondents reported their title as Manager (47.9%), while Director (25.2%) and Senior VP (15.5%) were the second and third largest groups. Executives represent 6.2%.

INDUSTRY TYPE

Manufacturers, at 28.5%, moved back into the top slot for respondents based on industry, with Retail nipping at its heels with 25.4% of respondents. The third largest industry demographic is third-party warehousing at 22.7%. This is quite a change from 2017, where Retail made up the largest industry demographic, followed by third-party warehousing (See Figure 1).

Figure 1. Respondents by Industry Type



DC OPERATION

The majority of respondents (66.0%) are picking cases rather than pallets. In calculating percentages for the type of work performed, we only used responses where a majority of the respondent's activity was in one of the four classifications. Compared to 2017, respondents primarily held their positions, with slight changes. The loss this year was to case picking—broken case declining 4.1% and full case down 1.4%. The gains, while small, were to partial and full pallet picking.

CUSTOMER SERVED

This year over 55% of respondents reported their customers were either an end consumer or a retail firm. With the increasing pressure on suppliers to meet stricter on-time and in-full performance, it will be interesting to see how performance on the metrics for Retail primary customers will change.

Note more respondents are reporting Manufacturers as primary customers, another 17.5% increase. Those reporting Distributor/Wholesaler as a primary customer increased 10.2% from the 2017 study as well. This movement may be attributed to the increased participation in the *DC Measures* study (See Figure 2).

BUSINESS AND OPERATIONAL STRATEGY

Business strategy impacts a facility's performance in a number of ways. Cost leadership reflects an importance on volume movements and reducing costs. Innovation strategy is focused on velocity by creating new or refreshed versions of products and services on a specific time cycle. Customer service values veracity or doing what we say we're going to do. The Mix strategy strives to be cost and customer focused while being innovative at the same time. To determine the effect business strategy has on performance, we asked respondents to indicate the overall business strategy for their business unit or division with respect to cost leadership, customer service, innovation or simply being "all things to all people" (See Figure 3).

Cost leadership has been able to maintain a steady pace over the years. This year, though, 26% more respondents report following a Cost Leadership strategy compared to 2017. Product/market innovation continues course corrections as it decreases again this year from 7.6% in 2017 to 6.6%, a decline of 8%.

We view 2016 as an important year when considering strategy for DCs. That year the most prominent strategy was Customer Service. This has remained true over the last two years and Customer Service maintains the title once again this year (51.0%). The Mix: Be All Things to All People strategy did regain some ground, up slightly to 29.7% from 2017. These may be short-term changes; however, as the economy continues to improve we believe more respondents will revert course and focus their attention back to “being all things to all people.”

Respondents were asked whether the global, domestic, and regional operations were managed internally (63.3%) or by a third party (20.3%) or a mix of both (16.4%). Mix went up a bit (14.9%) and third party went down a bit (22.7%) from 2017.

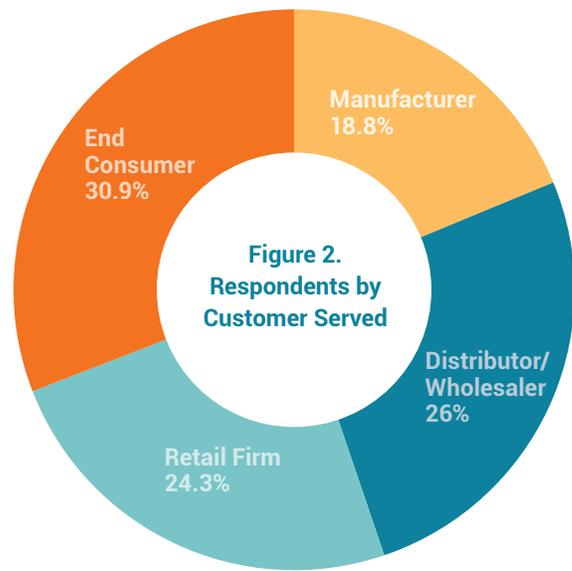
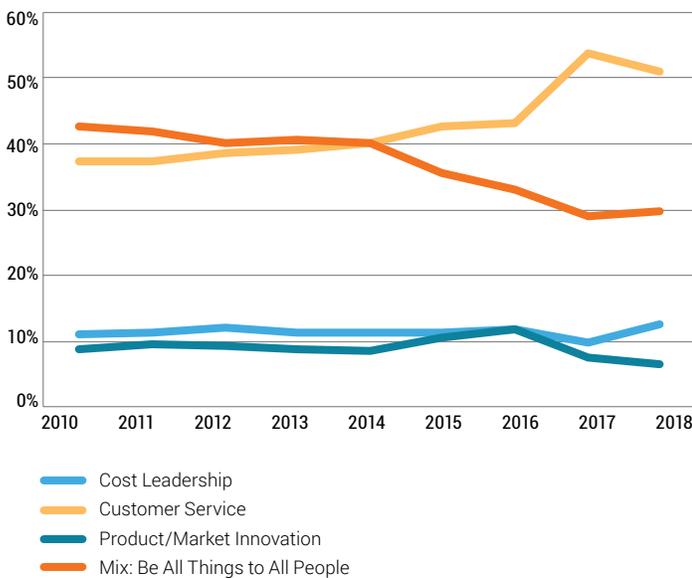


Figure 3. Respondents by Business and Operational Strategy



COMPANY SIZE

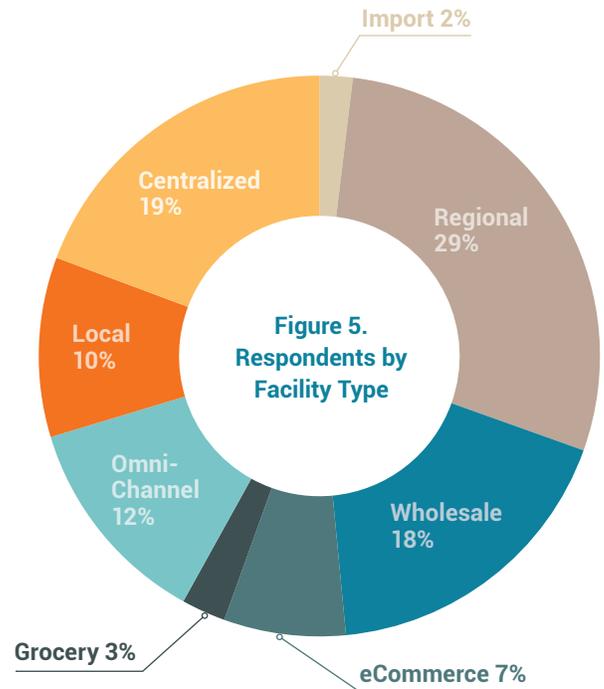
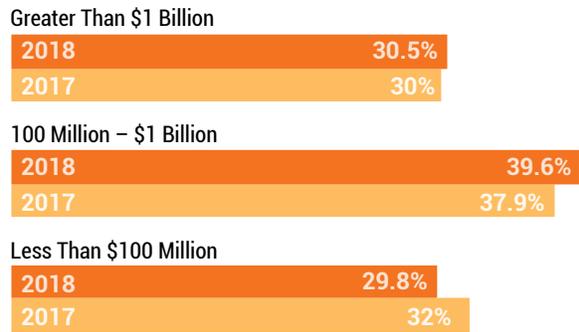
Each year respondents indicate the relative size of their company by reporting their annual sales. The purpose of this question is to help determine what effect size had on the kinds and number of metrics used, changes in performance, and to create additional benchmarks based on size (See Figure 4).

Companies with annual sales less than \$100 million comprised 29.8% of total respondents, decreasing 6.9% from 2017. Participants having greater than \$1 billion in annual sales comprise 30.5% of the respondents. Those companies reporting annual sales between \$100 million and \$1 billion represent the largest group at 39.6% respondents.

FACILITY TYPE

A new demographic for 2018 is type of warehouse or DC, especially with the increase in respondents operating omni-channel and e-commerce-based facilities. Our interest is to determine the mix of metrics the different facilities are using as well as how much performance differs. Regional, centralized, and wholesale facility types make up the top three types of facilities in the study (See Figure 5).

Figure 4. Respondents By Company Size



HOW WE CHANGED...THEN STAYED THE SAME

Table 2 shows the Top 5 most popular metrics used and how that has changed since the 2016 study. This year's most frequently employed metrics were average warehouse capacity, order picking accuracy, and peak warehouse capacity suggesting that capacity and quality are taking priority. This should not come as a surprise with the largest group of respondents in 10 years telling us Customer Service is their strategy. Providing quality is a key cornerstone of good Customer Service.

The biggest change to the list is on-time shipment continues its fall from grace. And yes, you read that correctly, on-time shipment fell from the 3rd to 5th spot on the list.

The huge focus on employees is something new for us to witness. Last year, the biggest change to the most popular measures was the addition of the employee measures to the list. And it's not only retailers that have to worry about shifting demographics in the workforce, but also manufacturers and third-party logistics providers. The economy is nearing full employment making it a "buyers" market with multiple offers for the most skilled and trained warehouse employees.

TABLE 2. TOP 5 METRICS FOR 2018			
Metrics	2018	2017	2016*
1. Average Warehouse Capacity Used – Capacity	1	1	2
2. Order Picking Accuracy (percent by order) – Quality	2	2	3
3. Peak Warehouse Capacity Used – Capacity	3	4	7
4. Contract Employees to Total Workforce – Employee	4	7	48*
5. On-time Shipments – Customer	5	3	1

*In 2016, the number of measures in the study totaled 55.

INTERPRETING THE BENCHMARKING RESULTS

A primary objective for this study is to provide a benchmark of key measures by industry and type of business and to see how these benchmarks are changing (if at all) over time.

As in previous benchmark studies, we primarily looked at two benchmarks: median performance and best practice performance. We chose the median as it is not easily swayed by outliers. As in the past, the benchmarking data is reported using a "quintile" format which presents the data on a five-point maturity scale that reflects where the respondents are situated with respect to the journey toward "best practice."

It gives readers an improved tool for judging their own performance and what constitutes best practice. To be considered best practice, the level of performance would have to fall within the top 20% of all respondents.

Table 3 provides the top 5 metrics from this year's study to highlight how companies are performing. The complete report provides data for all 34 measures.★

“When we consider three elements of success within the context of DCs: people, process and technology, the results are pretty eye opening.”

TABLE 3: QUINTILE PERFORMANCE CLASSIFICATION FOR METRICS						
Customer Metrics	Major Opportunity	Disadvantage	Typical	Advantage	Best-in-class	Median
On-time Shipments	Less than 94%	>= 94 and < 97.56%	>= 97.56 and < 99%	>= 99 and < 99.8%	>= 99.8%	98.20%
Capacity/Quality Metrics	Major Opportunity	Disadvantage	Typical	Advantage	Best-in-class	Median
Average Warehouse Capacity Used**	Less than 72.5%	>= 72.5 and < 80%	>= 80 and < 85%	>= 85 and < 92%	>= 92%	85%
Peak Warehouse Capacity Used**	Less than 85%	>= 85 and < 92%	>= 92 and < 95%	>= 95 and < 100%	>= 100%	95.00%
Order Picking Accuracy (percent by order)	Less than 98%	>= 98 and < 99%	>= 99 and < 99.5%	>= 99.5 and < 99.9%	>= 99.9%	99.30%
Employee Metrics	Major Opportunity	Disadvantage	Typical	Advantage	Best-in-class	Median
Contract Employees to Total Workforce	Greater than 30%	>= 10 and < 30%	>= 0.52 and < 10%	>= 0 and < 0.52%	< 0%	5.00%

Legend: > greater than; >= greater than or equal to; < less than

**Note: Average and Peak Warehouse Capacity does not always reflect best practices. Due to the calculations for quintiles, we have continually reported that best-in-class is above 90%. A high average warehouse capacity is not beneficial; studies have shown that an average warehouse capacity between 80 and 85% allows the warehouse to respond to shifts in demand.

Key Take-aways and Questions

THIS SNAPSHOT SHOWS THE FOLLOWING:

When we started exploring the questions concerning the focus of people, processes, and technology last year, it was in response to the lack of metrics being captured by firms in relation to their workforce. Firms wanted to be “all things to all people” and because of this, seemed to have a very narrow and specific set of metrics to track their performance. To our surprise, over 60% of firms suggested that people were the most important aspect of their firm, with technology coming up last. It seems now that the improved performance can be attributed to our DCs developing better processes with their people! Technology adoption has been slow, at best.

- 1. Consistency is missing.** To drive consistency, we must focus on continuous improvement and employee training to utilize those methodologies. It’s time to tap into the brains of our people and not their brawn, especially on the shop floor.
- 2. People are still the primary importance for companies.** We continue to see strong performance results from firms who focus on people first. Regardless of what processes we use or what technologies we implement, people will continue to be the driving force behind the supply chain.
- 3. DC’s processes are effective, but are they efficient?** When you look at this in relation to the level of technology that is being utilized, we see that many companies are excelling on the performance metrics. However, if we aren’t utilizing our technologies to the fullest extent, what resources are we wasting?

- 4. Do we have our head in the digital sand?** Social media, mobile tech, cloud-based services and big data are the only tech getting attention in the sense of planning to implement. Block-chain and autonomous vehicles are coming. How are we going to incorporate those with our DCs? In a time with e-commerce growing at steady rates, is the answer more labor, automation or a mix of both? Will early adopters gain a significant competitive advantage in terms of cost benefits through the adoption of technology? *Can you afford to NOT consider implementing new technologies to keep up with the digital age?*

We encourage DC leaders to consider all three elements to success because it is difficult to be competitive without a strategy of integration and improvement in all three areas. ★

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About the Study

WERC Thanks Its Research Partner: **DC VELOCITY**

2018 marks the 15th year of the DC Measures study. Every January, the survey is launched via email invitation to WERC members and DC Velocity readers. Survey participants are asked to report their actual levels of performance for 2017 for 34 key operational metrics. This study supports WERC’s vision of helping members and their companies succeed by creating unparalleled learning experiences, networking opportunities and access to research-driven industry information.

About the Researchers



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Using *DC Measures* Effectively

RESOURCES FOR BENCHMARKING



2018 *DC Measures*

Begin by identifying the quantitative metrics your operations will focus on and noting how your facility compares to others. Are you tracking the metrics that will produce the best return for your company?

The full study report captures 34 key operational metrics that are most meaningful for distribution professionals. The measures have been grouped into sets—customer, operational, financial, capacity/quality and employee/safety, perfect order and cash-to-cash cycle measurement. There's a list of definitions for each metric AND how to calculate each. Used from year-to-year and across your network, these details provide a strong base and consistent approach to reporting performance.

2018 *DC Measures* Comparative Report

This is a customized report for your company based on the most current *DC Measures* data. WERC researchers will work with your team to develop an interactive tool to compare your data to 6 demographics from the *DC Measures* study (Business Strategy, Sales, Industry, Operations, Facility Type, Customer Served). You'll receive a color-coded Excel worksheet for visual impact.



Warehouse Manager's Guide for Benchmarking, 2nd Edition

This publication explains the kinds of benchmarking, why it's important to benchmark, how to choose the right metrics, how to analyze your company's performance, and techniques for communicating to get the results you need. Additionally, you'll find methods for tracking and communicating plans and progress to others. Consider it a road map as you plan for the future.

Warehousing and Fulfillment Process Benchmark & Best Practices Guide, 2nd Edition

Complementing the *DC Measures* report is this 3-ring binder that explains qualitative warehousing best practices. It can be used as a workbook to rank your operations against industry standards in eight specific process areas using a quintile format similar to *DC Measures*. Use it to complete your overall performance improvement program for maximum benefit.

WERC Warehouse Assessment and Certification Program

In full cooperation with your team, the WERC assessor comes to your facility to assess its capabilities and performance on core warehousing functions. The review is based on well-vetted industry standard-grading methodology by independent certified auditors who benchmark your warehouse operations against a 5-point scale. In a presentation scheduled by you, the researcher explains the process, outlines your specific results, holds a workshop with your team that includes suggestions for improvements and leaves your team with a beginning action plan.

TECSYS® Metric Partner TECSYS®: A Market-Leading Provider of Warehouse, Distribution and Delivery Management Software

TECSYS provides industry-expert services to high-volume distribution industries, enabling customers to significantly streamline logistics operations, reduce cost and improve customer service. TECSYS has exclusively embedded in their Warehouse Management System (WMS) the metrics of high performers in WERC's *DC Measure's* annual industry study. With TECSYS' WMS, you will have the unique capability to compare, side-by-side, your internal warehouse performance results to the highest performers in your industry. You will also be able to execute, on an ongoing basis, an action plan to correct, improve and sustain superior supply chain performance and truly claim "best-in-class" status!

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Why WERC?

WERC exists to lead the warehousing industry, advance warehousing science and develop competitive advantage for both individuals and corporations. In this role, WERC responds to changes in industry and our stakeholders' needs by delivering the practical tools that enable success in today's dynamic market and the market of the future. Like you, we are on a path of continuous improvement, and every year we strive to bring you the data and tools for turning measures into actionable plans.