Back to the Future: Supply Chain Productivity Benchmarking Study

2018
Retail Food Industry is Changing!!

Benchmarking your company for the future
And I’ve....... Seen the Future!
“If you can’t measure it, you can’t manage it”

Peter Drucker
“Without data you’re just another person with an opinion.”

- W. Edwards Deming, Data Scientist
The Consumer Drives the Food Supply Chain
Customer’s Perspective

• Anytime: 24/7/365
• Any Place: Format
• Anywhere: Geography
• My Way!
• Right Now!
143 SURVEYS FROM 4 COUNTRIES

30 COMPANIES
71 FACILITIES
38% UNIONIZED
70% EMPLOY CONTRACT LABOR
## Participant Demographics

<table>
<thead>
<tr>
<th>Category</th>
<th>Highest</th>
<th>Lowest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$4 Billion +</td>
<td>$34 Million</td>
</tr>
<tr>
<td>Customers</td>
<td>620</td>
<td>14</td>
</tr>
<tr>
<td>Orders</td>
<td>16,500</td>
<td>76</td>
</tr>
<tr>
<td>Order Size/Customer</td>
<td>2,010</td>
<td>36</td>
</tr>
<tr>
<td># of Associates Wages</td>
<td>1,375</td>
<td>17</td>
</tr>
<tr>
<td>Wages</td>
<td>$45.66/hr</td>
<td>$1.57/hr</td>
</tr>
</tbody>
</table>
DC Operational Characteristics

- **Average Facility:** Clear Stacking Height: 32 feet 69 Dock Doors
- **Largest Facility:** Clear Stacking Height: 84 feet 165 Dock Doors
- **Receiving:** 5.4 days/week, 14.8 hours/day
- **Shipping:** 6.1 days/week, 18.6 hours/day
- **Average work week:** 44 hours; 10% overtime
- **Associates per Management:** 14 to 1
# Store Formats Served

<table>
<thead>
<tr>
<th>Small Stores</th>
<th>Supermarkets</th>
<th>Super Stores</th>
<th>Large Volume</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>43%</td>
<td>7%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Small Stores:** Convenience, Specialty, Neighborhood, Limited Assortment  
**Supermarkets:** Conventional Stores: 20-40,000 sq. ft  
**Superstores:** Supermarkets: 40-60,000 sq. ft  
**Large Volume:** Superwarehouse, Discount/Mass Merchandisers  
**Other:** Cash and Carry, Drug, Military
Operating Expenses: Labor

Total Associate Expenses
Percent of sales at inventory costs

- 2018 Wages: 1.42
- 2003 Wages: 1.19
- 2018 Benefits: 0.50
- 2003 Benefits: 0.60
Historical Trends: Hourly Labor Cost

- 2001: 15.68
- 2002: 15.37
- 2003: 16.31
- 2016: 19.00
- 2017: 21.00
- 2018: 23.44

Operating Cost Per Case

- All: $0.61
- Perishable: $0.53
- Grocery: $0.43
- Frozen: $0.33
- GM/HBC: $0.11
Operating Cost as a Percent of Sales

- GM/HBC: 2.86%
- Frozen: 2.15%
- Grocery: 2.07%
- All: 1.97%
- Perishable: 1.90%
Key Issues going on the last 3 years surveyed

2016
1. THROUGHPUT
2. TECHNOLOGY ADOPTION (VOICE, RF)
3. MATERIAL HANDLING SYSTEMS

2017
1. PICKING EFFICIENCY
2. AUTOMATION
3. OPTIMIZATION SYSTEMS

2018
1. LABOR RETENTION
2. E-COMMERCE
3. AUTOMATION
## Labor Retention

<table>
<thead>
<tr>
<th>Labor Retention a Major Problem</th>
<th>88%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associates Who Leave Every Year</td>
<td>35%</td>
</tr>
</tbody>
</table>
Move to Online

In as few as five-seven years, 70% of consumers will be purchasing food and beverage goods online. The $100 billion they’re expected to spend annually by 2022 or 2024 is equivalent to every U.S. household spending $850 online for food and beverage annually.

Source: FMI/Nielsen Study
E-Commerce

Percentage of Responses

- Instacart: 12%
- In House: 88%
- Click and Collect: 38%
- Provide Online...: 42%

E-Commerce Volume: 1.85%
Automated Vs Conventional

Bodies to Bodies Comparison

~ Companies that reported the use of some sort of automation are using fewer (40%) overall people... a legitimate comparison
Item Counts

- Item Count has grown by 10% per annum over the past 3 years surveyed.

- Future count will continue to expand as new products from all over the world are expected by customers.

- Saying NO to additional items has helped specialty food distributors such as UNFI and Kehe.

In 2003: Grocery Item Count was 8,820
AUTOMATION JUSTIFICATION - slow movers

KEY POINTS TO LOOK INTO

- Inbound decanting
- Selection rates
- Overall throughput
- Peak periods
- Right Item Types
- Maintenance
- Spare Parts

Size Does Matter

- 8-10 month implementation (from purchase to go-live)
- 30% of the space of a conventional flow-rack alternative (25,000 sq ft)
- Same cost as a 3 level Pick-to-Belt Module
Inventory Opportunities

- Over half of the participating companies reported inventory cube exceeding 80% space capacity.

- 55% indicate that they are holding inventory in outside storage.

- As a result, many DC’s are experiencing negative productivity issues and additional costs.
Income Activities: .35% Sales

- **Compensatory**: 6%
- **Other**: 10%
- **Reclamation**: 11%
- **Vendor Credits**: 25%
- **Unloading**: 48%

Other: Case Labels, Late Shipments, Cardboard, Plastic, Sold Assets, Drop Shipments
Sustainability Efforts

Percentage of Responses

- Solar Panels: 1%
- Electric Tractors: 2%
- Leed Certification: 7%
- Benchmark: 23%
- Hydrogen Forklifts: 25%
- Ceiling Fans: 59%
- Reduce Mileage: 94%
- Recycling: 98%

0%  20%  40%  60%  80%  100%  120%
Service Level: Order Fill Rate

Percentage of Responses

- 69% for 97-99
- 19% for 95-96
- 6% for 92-94
- 4% for 90-91
- 4% for >90
DC Capacity Challenges

Average Cube 82%

- >60: 7%
- 61-70: 20%
- 71-80: 21%
- 81-90: 12%
- 91%: 22%
Insanity: doing the same thing over and over again and expecting different results.

- Albert Einstein
The 2018 Survey Detailed Findings
Historical Productivity

Over Past 3 Years Surveyed

- Average Selection: 178, 176, 167
- Average Direct Labor: 84, 89, 83
- Average Throughput: 65, 59
Retailers enjoy the advantage of having more control over their supply chain

<table>
<thead>
<tr>
<th>Metric</th>
<th>Retailer</th>
<th>Wholesalers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Average Weekly Case Movement</td>
<td>834,952</td>
<td>629,584</td>
</tr>
<tr>
<td>Weeks of Supply</td>
<td>3.2</td>
<td>4.0</td>
</tr>
<tr>
<td>Average locations serviced</td>
<td>120</td>
<td>492</td>
</tr>
<tr>
<td>Average Number of Active SKUs</td>
<td>15,178</td>
<td>18,024</td>
</tr>
</tbody>
</table>
SKU’s per Department: Distributor

Number of SKU’s

- Produce: 914
- Meat: 1,314
- Dairy/Deli: 1,529
- Frozen: 2,900
- Perishable: 5,496
- GM/HBC: 10,450
- Grocery: 13,038
SKU’s per Department: Retailer

Number of SKU’s

- Produce: 2,040
- Dairy/Deli: 2,471
- Frozen: 2,493
- Perishable: 7,463
- Grocery: 10,430
- GM/HBC: 11,553
The average wholesaler will carry up to 35% more SKUs than the average retailer.

This difference seems to be more pronounced in Dry Grocery.
Resource Allocation
Paid Hours

55% paid hours is allocated to selection
Human Resources: Total

- Selection: 36.82%
- Replenishment: 17.25%
- Putaway: 14.14%
- Receiving: 8.6%
- Loading: 6.62%
- Supervisors: 5.89%
- Inventory: 4.23%
- Maintenance: 2.95%
- Sanitation: 2.7%
- Clerical: 2.52%
- Managers: 2.3%
- In Checking: 1.5%
- Out Checking: 0.78%
- Other: 0.52%
Human Resources: Total Automation

- Selection: 13.91%
- Maintenance: 12.97%
- Loading: 12.42%
- Moving Stock: 8.31%
- Receiving: 7.55%
- Sanitation: 5.92%
- Other: 3.28%
- Inventory: 3.24%
- Supervisors: 2.99%
- Clerical: 1.65%
- Managers: 1.35%
Indirect/Total Hours

Percentage of Indirect Hours to Total Hours

- Overall: 25.20%
- Freezer: 21.49%
- Cooler: 28.27%
- Grocery: 25.77%
Selection Method Distribution

- Fully Automated: 88%
- Paper Pick List: 4%
- RF Terminals: 6%
- Voice Directed: 2%
Rates Per Paid Hour
Selection

- Fully Automated: 1,210
- Paper Pick List: 79
- RF Terminals: 78
- Voice Directed: 180
Engineered Standards (Selection Only)

- 15% higher in contrast to those without.
- They don’t improve productivity, but they set the bar. Make sure the bar is set high, but is still achievable from the GET-Go.
Retail vs. Wholesale
Labor and Section Rates Comparison

<table>
<thead>
<tr>
<th>Category</th>
<th>Retailer</th>
<th>Wholesaler</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooler (Everything)</td>
<td>171</td>
<td>265</td>
<td>254</td>
</tr>
<tr>
<td>Dry Grocery (Everything)</td>
<td>90</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td>Freezer (Everything)</td>
<td>153</td>
<td>91</td>
<td>108</td>
</tr>
<tr>
<td>Overall</td>
<td>171</td>
<td>265</td>
<td>254</td>
</tr>
</tbody>
</table>

- Average of Sel. Rate
- Average of Direct Labour
The Average retail operation departmental relationship
Dry represents almost 60% of total volume

<table>
<thead>
<tr>
<th>Department</th>
<th>Retail Shipping Volume (Cs.)</th>
<th>Wholesale Shipping Volume (Cs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Grocery</td>
<td>474,950</td>
<td>493,940</td>
</tr>
<tr>
<td>Cooler</td>
<td>174,997</td>
<td>265,123</td>
</tr>
<tr>
<td>Freezer</td>
<td>149,341</td>
<td>91,325</td>
</tr>
</tbody>
</table>
Retailers Selection Productivity outperforms Wholesalers

Direct Labor Productivity is slightly higher for Retailers in all areas
Overall Average VS BOB
Labor and Section Rates Comparison

BOB

Cooler (Everything)  Dry Grocery (Everything)  Freezer (Everything)  OVERALL

(40)

Average

Cooler (Everything)  Dry Grocery (Everything)  Freezer (Everything)  OVERALL

(40)
The average wholesale operation ships to nearly 3 times more locations than the average retail operation.

The average wholesaler receives nearly double the orders of the average retailer.
The average retailer appears to have more control over the orders they ship per week per location. This increases order size and provides more leverage for selection productivity.
Fingerprinting @ Receiving

Percentage of Responses

- 40%+: 47%
- 31-40%: 28%
- 21-30%: 9%
- 11-20%: 11%
- 10%: 5%

0% 20% 40% 60%
2018 SUPPLY CHAIN BENCHMARKING STUDY

Cube Per Item

1 case = 1 cubic foot

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat</td>
<td>99.50%</td>
</tr>
<tr>
<td>Produce</td>
<td>89.90%</td>
</tr>
<tr>
<td>Perishable</td>
<td>87.60%</td>
</tr>
<tr>
<td>Dairy/Deli</td>
<td>85.70%</td>
</tr>
<tr>
<td>Frozen</td>
<td>73.90%</td>
</tr>
<tr>
<td>Grocery</td>
<td>65.40%</td>
</tr>
</tbody>
</table>
Distributor Inventory Turnover

Number of Days of Inventory in the DC

- **Produce**: 6.5
- **Meat/Dairy**: 13.9
- **Grocery**: 37.3
- **Frozen**: 38.2
Retailer Inventory Turnover

Number of Days of Inventory in DC

- Produce: 6.2
- Meat/Dairy: 12.5
- Grocery: 24.6
- Frozen: 24.8
Cross Docking Product

Volume of Cases Handled

- Frozen: 0.55%
- Meat: 1.42%
- Grocery: 1.87%
- Dairy/Deli: 2.05%
- Perishable: 2.76%
- Produce: 5.45%
2018 Supply Chain Benchmarking Study

Practices – Adoption Levels

<table>
<thead>
<tr>
<th></th>
<th>Retailer</th>
<th>Wholesaler</th>
<th>Retailer</th>
<th>Wholesaler</th>
<th>Retailer</th>
<th>Wholesaler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union</td>
<td>71%</td>
<td>61%</td>
<td>24%</td>
<td>28%</td>
<td>6%</td>
<td>28%</td>
</tr>
<tr>
<td>Picking Incentives</td>
<td>29%</td>
<td>39%</td>
<td>76%</td>
<td>72%</td>
<td>72%</td>
<td>72%</td>
</tr>
<tr>
<td>Engineered Standards</td>
<td>30%</td>
<td>36%</td>
<td>94%</td>
<td>94%</td>
<td>28%</td>
<td>28%</td>
</tr>
</tbody>
</table>
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<table>
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<th>Wholesaler</th>
<th>Retailer</th>
<th>Wholesaler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automation</td>
<td>91%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>WMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice Picking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>91%</td>
<td>85%</td>
</tr>
</tbody>
</table>
2018 SUPPLY CHAIN BENCHMARKING STUDY

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For over 35 years Keith has provided top quality supply chain solutions to Fortune 500 companies which has contributed to his distinguished reputation today as a highly respected global supply chain consulting leader and trusted advisor well known to the industry. His contribution to the development of Productivity Benchmarking data analysis, insights and reports has provided substantial benefits to ROFDA members and the Food Industry as a whole. He is a sought after industry speaker, has authored industry magazine articles and has published white papers on a broad range of topics on Supply Chain and Logistics.
WHY IS BENCHMARKING LOGISTICS IMPORTANT?

BENCHMARKING IS THE BEST WAY TO KNOW HOW YOUR COMPANY’S OPERATIONAL COMPETITIVENESS IS POSITIONED AND HOW TO GET TO THE TOP RANK. (BOB)

- Increase supply chain profitability - reduce operating costs by implementing best of breed practices
- Uncover improvement opportunities – eliminate inefficiencies by scrutinizing your activities
- Justify costly operational improvements
- Quickly identify industry trends
- Enhance internal productivity monitoring – benchmark your productivity level throughout the year
- Drive revenue growth by providing the service that keeps customers satisfied and attracts new ones.
- Identify additional revenue opportunities by differentiating the way you deliver your product or service.