



Perfecting The Perfect Order


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Learning Objectives

- What is good when it comes to measuring distribution performance?
- Process vs Results Measures
- The What and Why of the Perfect Order Index
- Case Study



You have a 99% fill rate from your
DC.

Is this Good?

Metrics Drive Behaviors

| | Bad |
|----------------------------------|--|
| Metric | <i>99% Fill Rate for a Distribution Center</i> |
| Kinds of Behavior Created | <ul style="list-style-type: none">- Expedited orders to manufacturing- Airfreight shipments- Large inventories on hand to prevent out of stocks |
| Does Not Consider | <ul style="list-style-type: none">- Did it arrive when the customer wanted?- How much did it cost to fill the order- Cycle time up or down the supply chain (tail)- Customer complaints (quality or accuracy) |

Metrics Drive Behaviors

| | Bad | Better |
|----------------------------------|---|---|
| Metric | 99% Fill Rate for a Distribution Center | <i>97% On Time to Customer Request</i> |
| Kinds of Behavior Created | <ul style="list-style-type: none"> - Expedited orders to manufacturing - Airfreight shipments - Large inventories on hand to prevent out of stocks | <ul style="list-style-type: none"> - Cross functional view to work with OM and Manufacturing - Large inventories on hand to prevent out of stocks |
| Does Not Consider | <ul style="list-style-type: none"> - Did it arrive when the customer wanted? - How much did it cost to fill the order - Cycle time up or down the supply chain (tail) - Customer complaints (quality or accuracy) | <ul style="list-style-type: none"> - How much did it cost to fill the order? - Customer complaints (quality or accuracy) |

Metrics Drive Behaviors

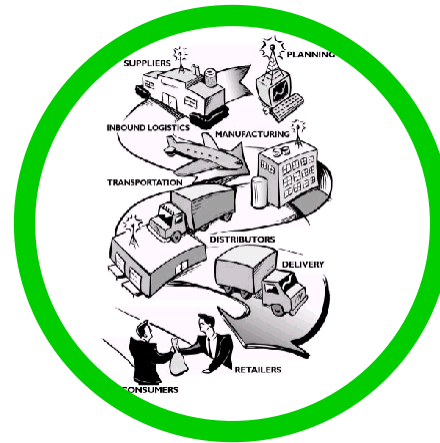
| | Bad | Better | Best |
|----------------------------------|---|---|--|
| Metric | 99% Fill Rate for a Distribution Center | 97% On Time to Customer Request | <i>95% Perfect Order Fulfillment</i> |
| Kinds of Behavior Created | <ul style="list-style-type: none"> - Expedited orders to manufacturing - Airfreight shipments - Large inventories on hand to prevent out of stocks | <ul style="list-style-type: none"> - Cross functional view to work with OM and Manufacturing - Large inventories on hand to prevent out of stocks | <ul style="list-style-type: none"> - Cross functional view to work with OM and Manufacturing and Transportation - Overall order accuracy and quality – including invoicing |
| Does Not Consider | <ul style="list-style-type: none"> - Did it arrive when the customer wanted? - How much did it cost to fill the order - Cycle time up or down the supply chain (tail) - Customer complaints (quality or accuracy) | <ul style="list-style-type: none"> - How much did it cost to fill the order? - Customer complaints (quality or accuracy) | <ul style="list-style-type: none"> - How much did it cost to fill the order? |

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Acquire a Process, Not Functional Orientation

- A telescope is better tool than a microscope – look at the biggest picture, and the long-term considerations – at processes, not activities

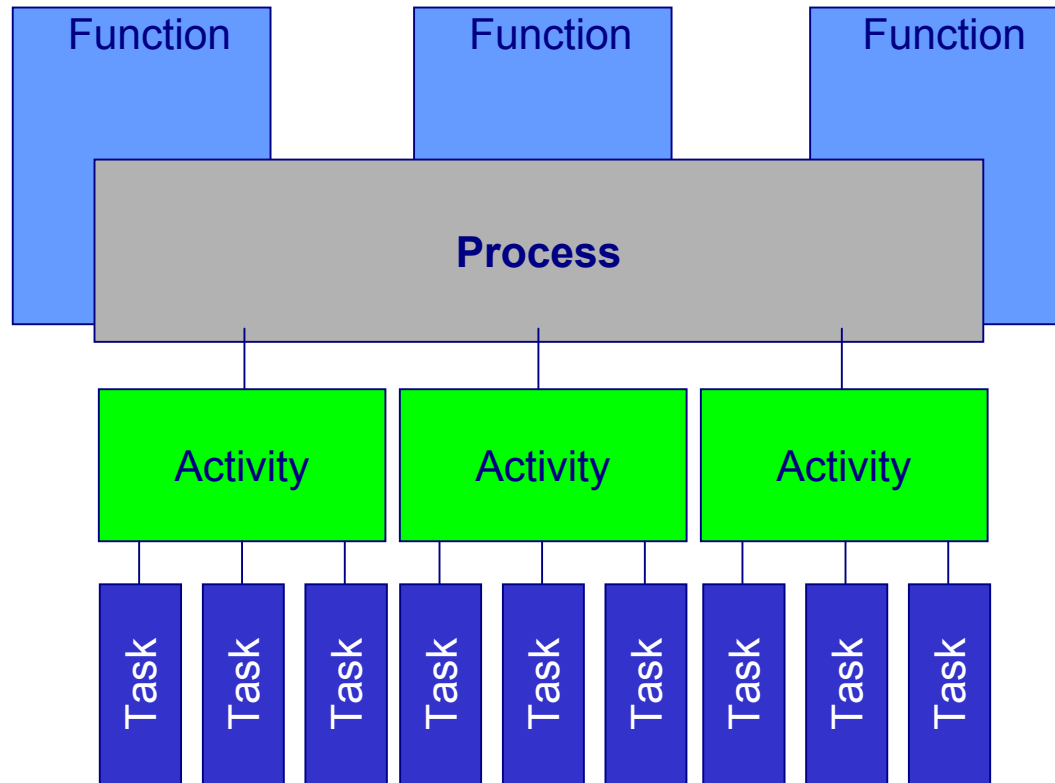


What's the Point of a Metric: Process vs Results Metrics

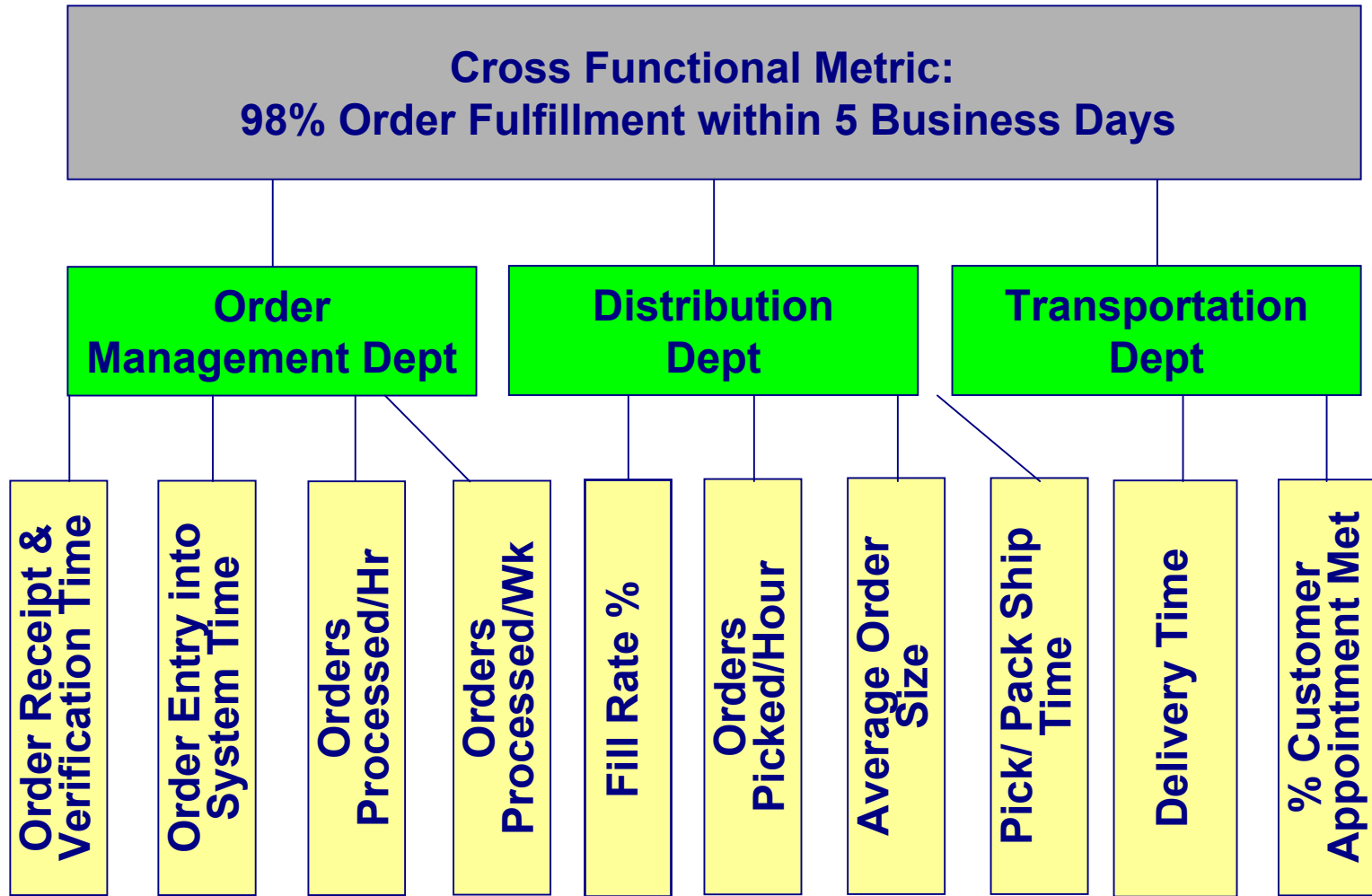
- Results Metrics
 - Usually functionally oriented
 - Usually focused on one aspect of a process
 - Measures components of a process – but not the whole process
 - If left unchecked, drive suboptimization
- Process Metrics
 - Are usually company-wide or customer focused
 - Are cross functional in nature (and sometimes cross company)
 - Measure the “total effect” of a process
 - Drive overall optimization of costs and customer satisfaction

Develop Cross Functional / Process Framework

- The composition of a process measure is based on the composition of the process being measured



Example Framework



Individual
Functional Metrics
and Data

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What is a Perfect Order?

- On time
- Complete
- Damage Free
- Correct Invoice

The Perfect Order Index[®]

- Example Calculation -

| | | | | | | | | |
|---------|---|----------|---|-------------|---|--------------------|---|------------|
| On Time | X | Complete | X | Damage Free | X | Accurate Invoicing | = | POI |
| 95% | X | 95% | X | 95% | X | 95% | = | |

The Perfect Order Index[®]

- Example Calculation -

| | | | | | | | | |
|---------|---|----------|---|-------------|---|--------------------|---|--------------|
| On Time | X | Complete | X | Damage Free | X | Accurate Invoicing | = | POI |
| 95% | X | 95% | X | 95% | X | 95% | = | 81.4% |

What are Some Benchmarks?

AVERAGE

| | | | | | | | | |
|------------------|---|--------------|---|--------------|---|--------------------|---|-------------|
| On Time Delivery | | Complete | X | Damage Free | | Accurate Invoicing | = | POI |
| 93.67 | x | 93.30 | x | 98.35 | x | 98.2 | = | 84.4 |

BEST PRACTICE

| | | | | | | | | |
|------------------|---|-------------|---|-------------|---|--------------------|---|-------------|
| On Time Delivery | | Complete | X | Damage Free | | Accurate Invoicing | = | POI |
| 99 | x | 99.7 | x | 99.9 | x | 100 | = | 98.6 |

Source: Warehouse Education Research Council Benchmarking Study

Why the Perfect Order?

- Ultimate measure of a customer's order
- Research shows DCs are missing the mark
 - 84% - WERC/DC Velocity
 - 80% - AMR study
 - 23% - Retail Compliance Council inbound vendor orders to retailers
- Helps reduce costs

Cost of Doing “Wrong”

- Physical cost to fix the error
 - Labor cost for multiple shipments in backorder and additional freight
 - Providing replacement product
 - Refunding purchase price
 - Providing credit
 - Cost of processing additional receipts for multiple shipment
- Penalties
 - Retail compliance fees come straight from profits
- Lost revenue
 - Cost of lost sales
 - Cost of lost customers

How Much Can It Cost?

Consider the below simple example of an incorrect business to consumer shipment.

- Typical Order = profit of \$15
 - Five items priced at \$5 each
 - Shipped by the best way at a cost of \$5
 - Total invoice \$30
 - Margin of 50% with profits of \$15

- Cost to “Perfect” the Order of a Mis-shipment for one item = \$9.75
 - Customer service labor and phone charges - \$5.00
 - Transportation for a return - \$2.00
 - Replacement item - \$2.00
 - Labor to pick/pack/ and check the order again - \$.75

Additional Benefits of the Perfect Order

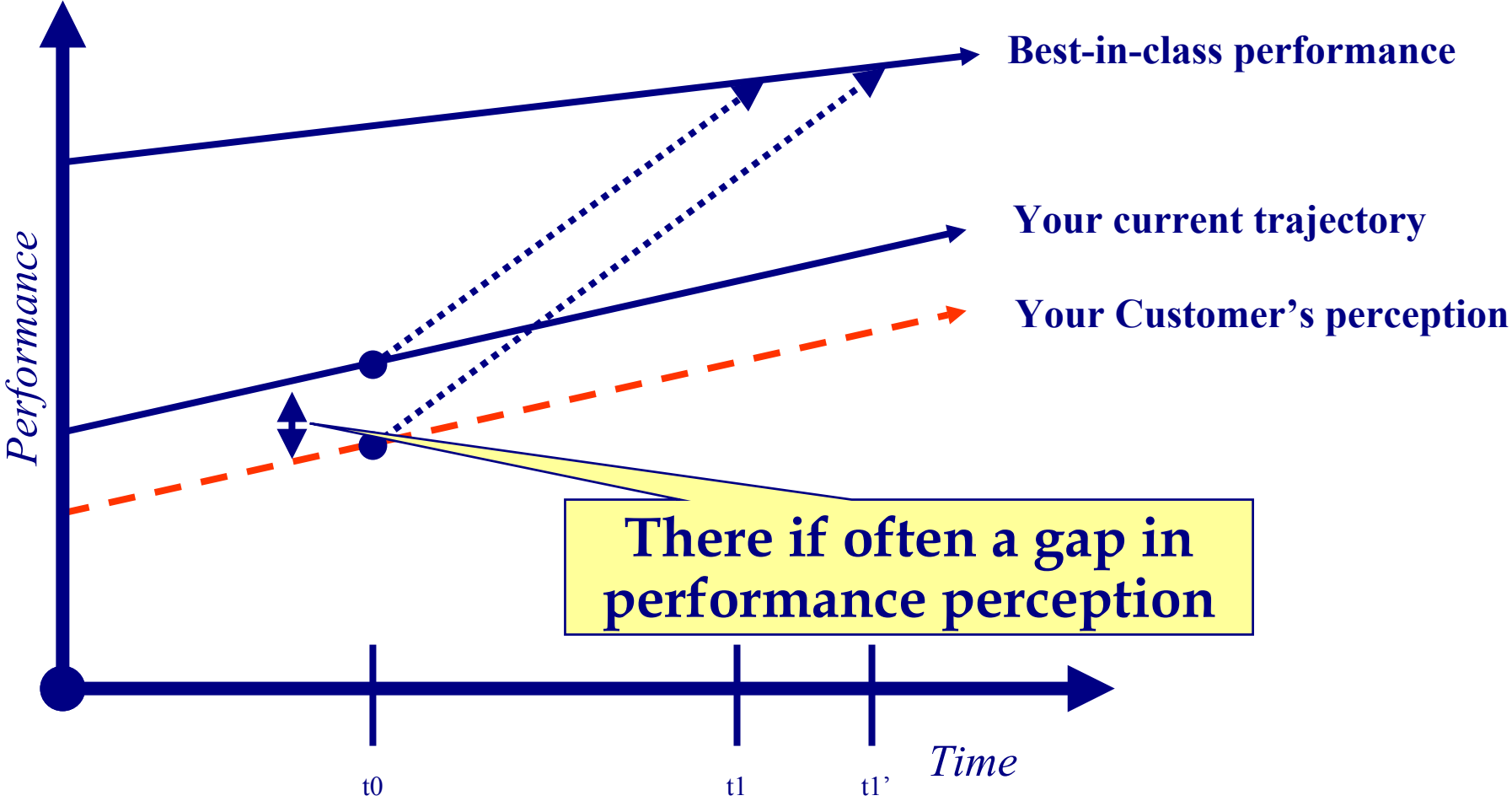
A recent study by AMR Research found a correlation between Perfect Order performance and some key financial and market indicators...

- **Earnings Per Share (EPS)** – An increase of 10 percentage points in the perfect order rating correlated to 50 cents better earnings per share
- **Return on Assets (ROA)** – Companies with better perfect order ratings tend to have better ROA. 5 percentage points correlates to 2.5% better ROA
- **Profit Margins** – A 3 percentage point better perfect order rating correlates with 1% additional profit margin

Learning Objectives

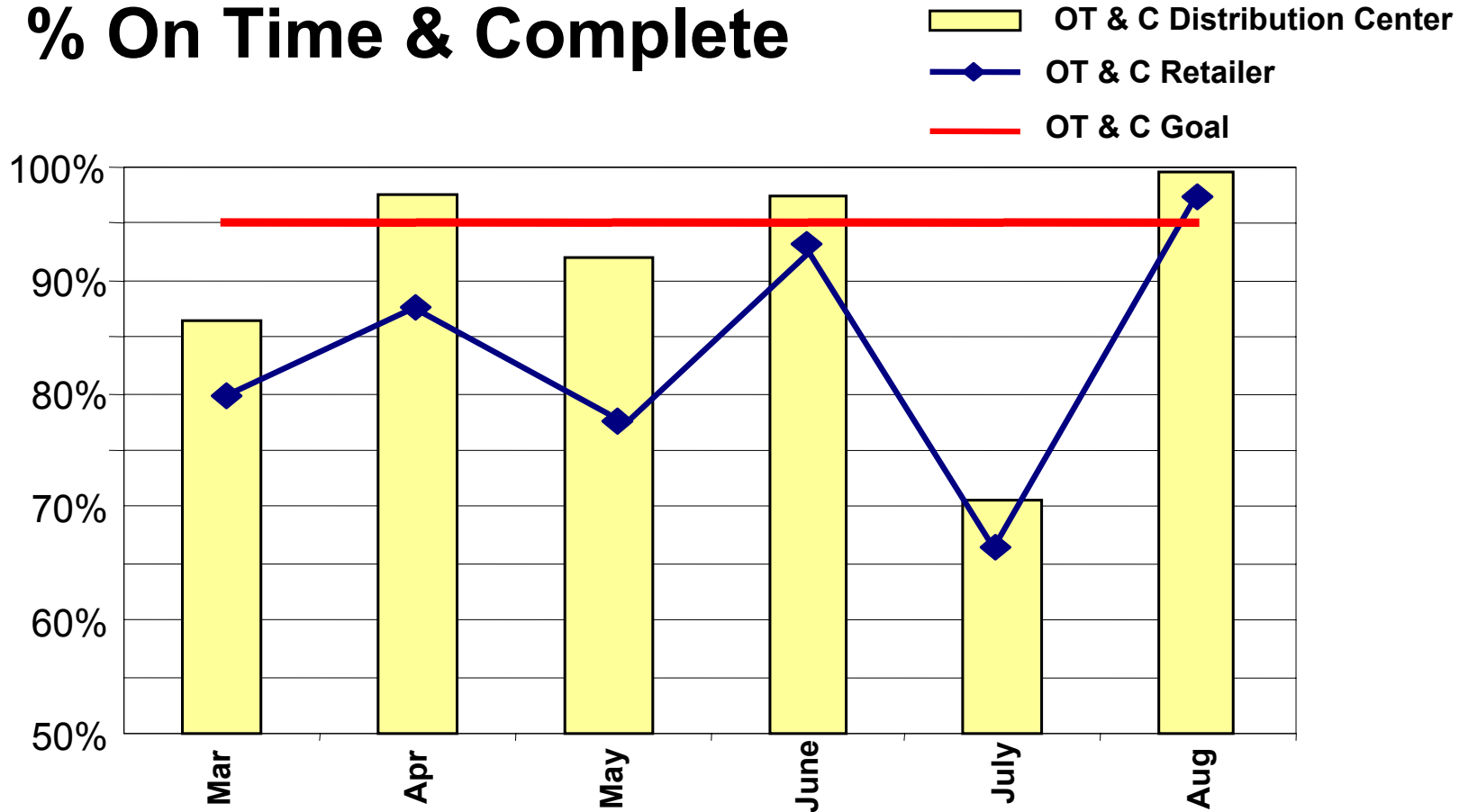
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Perceptions Gaps



Intuit Case Study

% On Time & Complete



Customer Benchmarking showed the DC was consistently reporting higher level of OT&C

Intuit Case Study

- What is On Time?
 - Fill rate vs on time shipments
 - On time shipments vs on time delivery
 - On time delivery vs on time and complete
- Order is coded into ERP to automatically insert customer business rules into the shipping process
 - Customer orders on Wed and wants it next Wed
 - If their retail store is in Seattle it goes out on Monday
 - If there retail store in in Salk Lake City it goes out on Tuesday
- Systemic way to flush Proof of Deliveries
- Retailer Scorecard Reviews
 - Won the Supply Chain Partner of the Year from Staples

Logistics Measures in Context

As published in Logistics Management

| | Results Measures | Process Measures | Strategic Measures |
|------------------------------|---|--|--|
| Reliability | <ul style="list-style-type: none"> ● Fill rates by customer, commodity ● Available for Customer Pickup per request ● Errors by line item, activity, reason code, etc. ● Cycle Count accuracy | <ul style="list-style-type: none"> ● On-time delivery to commit, request ● Order Cycle Time Variability ● Order Processing Accuracy ● Forecasting Accuracy ● Planning Accuracy ● Manufacturing Schedule Adherence ● Stockouts against forecast | <ul style="list-style-type: none"> ● Perfect Order Fulfillment (right item, right qty, right place, right time, defect free, correct documentation) ● Overall Customer Satisfaction |
| Flexibility & Responsiveness | <ul style="list-style-type: none"> ● Order Fulfillment Lead Time by customer, commodity ● Fill rates by customer, commodity ● % expedite requests fulfilled by customer ● Capacity Load & Utilization | <ul style="list-style-type: none"> ● Backlog & Back Orders ● Aggregate Cycle times by activity ● Order Cycle Time ● Lead time from order receipt to manufacturer complete | <ul style="list-style-type: none"> ● Upside Production Flexibility ● Forecasting/Planning cycle time ● % Expedite requests fulfilled ● Order Fulfillment Lead Time |
| Cost | <ul style="list-style-type: none"> ● Costs per line, per order, per activity, per shift, etc ● Load factors, lines per order, Qty per line, etc.(cut?) ● Freight costs per pound by mode and destination | <ul style="list-style-type: none"> ● Logistics Costs (order mgmt + distribution + freight) as a percentage of sales ● Freight costs as a percentage of sales to customer ● Distribution costs as a percentage of sales ● Inventory shrink and obsolescence as a percent of sales ● Labor productivity Analysis ● Over, short, damage as % of sales ● Returns as a percentage of sales | <ul style="list-style-type: none"> ● Total supply chain management cost as a percentage of sales ● Total Delivered Cost as a % of Revenue |
| Asset Utilization | <ul style="list-style-type: none"> ● Inventory Turnover ● Days of Inventory ● Return on Investment ● Return on Assets | <ul style="list-style-type: none"> ● Days of Inventory in entire supply chain by Activity ● Total Safety Stocks as % of total inventory? ● Safety (hedge) stocks by customer ● Dedicated inventories by customer ● Local support inventories | <ul style="list-style-type: none"> ● Cash-to-Cash Cycle Time ● Net Asset Turnover, Return on Net Assets |

Companies should strive for "balanced" metrics that are more process and strategic in nature



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