



The
Science
of
EDGE
THE KNOWLEDGE TO MASTER THE NEW SUPPLY CHAIN

Foretracking: A Common-Sense Approach for Managing Your Daily Operation

Track 4 Session 4

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Abstract

How do you deal with demand volatility in today's multichannel business? The key is having the right people at the right time to meet your specific operational needs. This is Foretracking – the ability to forecast volume and track actual, while determining the right staff at the right cost. Join the pioneer of this strategy, as he presents his experience with following this daily approach to sustained operational success. You will walk away with the simple tools that will help you contend with changing volumes daily while controlling the cost drivers within your operation.

The Components of Foretracking

Volume

Forecasting and Tracking Volume to learn the Business



Productivity

The Science to a “Well-Run Facility”



Cost

Operation breakout to identify key cost drivers

Volume

```
graph TD; A[Volume] --> B[Productivity]; B --> C[Cost];
```

Productivity

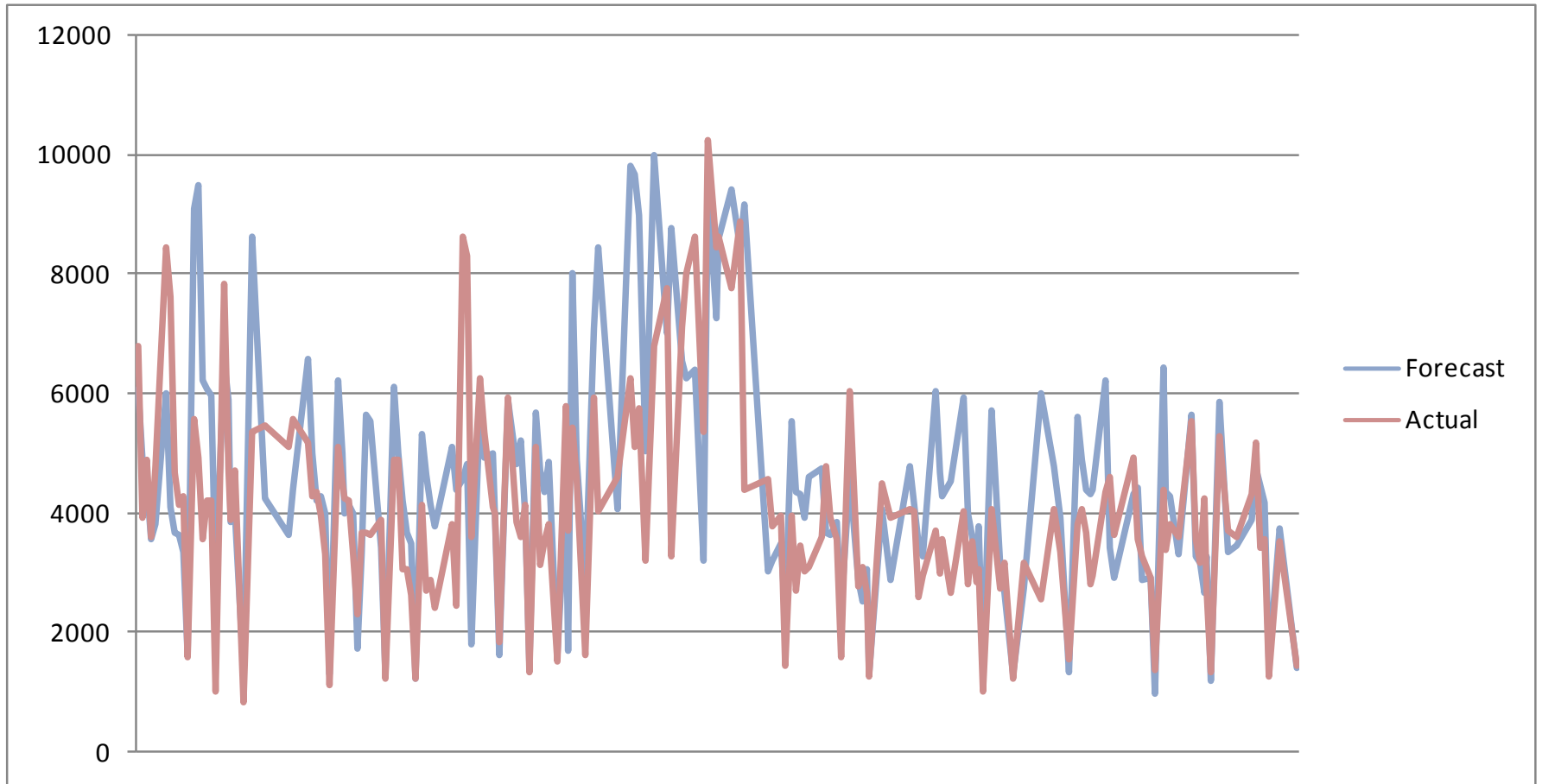
Cost

Gartner Supply Chain Top 10

| Rank | Company |
|--------|---------------------|
| Master | Apple |
| Master | Procter and Gamble |
| 1 | Amazon.com |
| 2 | McDonald's |
| 3 | Unilever |
| 4 | Intel |
| 5 | Inditex |
| 6 | Cisco Systems |
| 7 | H&M |
| 8 | Samsung Electronics |
| 9 | Colgate-Palmolive |
| 10 | Nike |

- **Source: Gartner (2015)**

Forecast vs. Actual



Data tracked each day for two years

Volume Forecasting

Focus on Three Levels

- Weekly
- 30 Days Out
- Annually

Foretrack



- Track Actual vs. Forecast
- Learn how the business operates; be an expert
- Take into account any future events like product launches, sales, etc.

Use a planning benchmark of 80% - 120% of average volume

Volume



```
graph TD; A[Volume] --> B[Productivity]; B --> C[Cost];
```

Productivity

Cost

Setting Productivity Goals

Apply engineered standards and layer in the forecasted volumes

- Breakout each operation from receiving to shipping
- Account for future events as with volume



Foretrack

- Forecast vs. Actual

Set the appropriate assumptions

Apply Engineered Standards with Forecasted Volumes

Daily Volume

| Function | Mon | Tue | Wed | Thu | Fri |
|--------------------------|----------------|----------------|----------------|----------------|----------------|
| Case Pick | 61,041 | 64,903 | 51,456 | 55,602 | 61,183 |
| Each Pick | 26,160 | 27,816 | 22,053 | 23,830 | 26,221 |
| Total Pick Volume | 132,806 | 141,880 | 143,740 | 132,901 | 178,515 |
| Case Labeling | 13,412 | 13,768 | 24,277 | 12,021 | 32,681 |
| Stock Replenishment | 2,213 | 2,365 | 2,396 | 2,215 | 2,975 |
| Order Auditing | 13,281 | 14,188 | 14,374 | 13,290 | 17,852 |
| Pallet Wrapping | 2,213 | 2,365 | 2,396 | 2,215 | 2,975 |
| Trailer Loading | 2,213 | 2,365 | 2,396 | 2,215 | 2,975 |
| Small Parcel Shipping | 872 | 927 | 735 | 794 | 874 |

| Productivity Rate | % Efficiency | Planned Productivity Rate |
|-------------------|--------------|---------------------------|
| 80 | 100% | 80 |
| 115 | 100% | 115 |
| 114 | 100% | 114 |
| 200 | 100% | 200 |
| 12 | 85% | 10 |
| 220 | 100% | 220 |
| 30 | 90% | 27 |
| 35 | 80% | 28 |
| 100 | 90% | 90 |

Set the appropriate assumptions based on foretracking

Shift Breakout

| Shift | Split |
|--------------|-------------|
| 1 | 45% |
| 2 | 25% |
| 3 | 30% |
| 4 | 0% |
| Total | 100% |

Volume Breakout

| Pick Processing Area | Split |
|----------------------|-------------|
| Area 1 | 20% |
| Area 2 | 25% |
| Area 3 | 20% |
| Area 4 | 5% |
| Area 5 | 15% |
| Area 6 | 15% |
| Total | 100% |

Business Assumptions

| | |
|------------------------|-------|
| Absenteeism | 10% |
| Hours Worked Per Shift | 7.25 |
| Eaches/Order | 110.0 |



By “foretracking” the business, the assumptions are calculated based on historical data

Create a Staffing Plan based on the applied assumptions from foretracking

| Plan Staffing | Core Staff | Mon | Tue | Wed | Thu | Fri |
|----------------------|-------------|------------|------------|------------|------------|------------|
| Pick Staffing | 150 | 154 | 165 | 148 | 151 | 180 |
| Stock Replenishment | 32 | 27 | 29 | 29 | 27 | 37 |
| Order Auditing | 8 | 8 | 8 | 8 | 8 | 10 |
| Shipping Preparation | 35 | 30 | 31 | 38 | 29 | 49 |
| Total Staff | 225 | 219 | 233 | 223 | 215 | 276 |
| +/- | ---- | -6 | 8 | -2 | -10 | 51 |



By foretracking, you will understand your cross-training needs

“Staffing Rules of the Game”

Staffing review on
Thursdays for the
upcoming week

Each department fills out plan
to anticipate their staffing

Update daily plan based
on actual attendance
and volume

End-of-week review of
actual vs. plan
performance

Volume

A light orange arrow pointing downwards from the 'Volume' box to the 'Productivity' box.

Productivity

A light red arrow pointing downwards from the 'Productivity' box to the 'Cost' box.

Cost

Identifying Key Cost Drivers

Apply departmental cost to operation

- From receiving to shipping
- Include necessary overhead, such as building, equipment, etc.
- Supplies

Layer in productivity and staffing

- Labor cost by department

Foretrack and identify cost drivers

- Forecast cost and track actual



Track Actual Cost and Actual Volume Everyday

| Day | Facility Expense | Equipment Expense | Receive Pallet | Receive Carton | Pick Case | Pick Unit | Supply Expense | Total Cost | Cartons Shipped | Cost Per Carton |
|--------|------------------|-------------------|----------------|----------------|-----------|-----------|----------------|------------|-----------------|-----------------|
| | \$80,000 | \$40,000 | \$4.00 | \$0.50 | \$0.75 | \$0.25 | \$0.10 | | | |
| 1-Mar | \$2,963 | \$1,481 | 157 | 5,395 | 2,740 | 4,510 | \$20,022 | \$15,653 | 7,719 | \$2.03 |
| 2-Mar | \$2,963 | \$1,481 | 38 | 4,534 | 2,372 | 2,636 | \$14,778 | \$13,047 | 4,761 | \$2.74 |
| 3-Mar | \$2,963 | \$1,481 | 19 | 2,139 | 1,868 | 2,287 | \$9,735 | \$9,606 | 3,913 | \$2.45 |
| 5-Mar | \$2,963 | \$1,481 | 33 | 5,139 | 1,661 | 2,058 | \$9,246 | \$12,401 | 3,828 | \$3.24 |
| 6-Mar | \$2,963 | \$1,481 | 64 | 142 | 632 | 729 | \$3,748 | \$5,874 | 1,288 | \$4.56 |
| 8-Mar | \$2,963 | \$1,481 | 73 | 3,350 | 3,084 | 4,161 | \$21,161 | \$13,556 | 7,095 | \$1.91 |
| 9-Mar | \$2,963 | \$1,481 | 70 | 3,270 | 2,300 | 2,199 | \$22,293 | \$12,499 | 4,243 | \$2.95 |
| 11-Mar | \$2,963 | \$1,481 | 91 | 4,667 | 2,395 | 2,291 | \$15,970 | \$13,442 | 4,612 | \$2.91 |
| 12-Mar | \$2,963 | \$1,481 | 5 | 4,884 | 2,601 | 2,910 | \$15,319 | \$13,559 | 5,455 | \$2.49 |
| 15-Mar | \$2,963 | \$1,481 | 56 | 7,486 | 1,787 | 5,323 | \$19,577 | \$16,784 | 7,855 | \$2.14 |
| 16-Mar | \$2,963 | \$1,481 | 88 | 4,601 | 3,942 | 2,502 | \$17,904 | \$14,770 | 7,098 | \$2.08 |
| 18-Mar | \$2,963 | \$1,481 | 224 | 3,419 | 2,738 | 2,229 | \$17,312 | \$13,102 | 5,258 | \$2.49 |
| 19-Mar | \$2,963 | \$1,481 | 64 | 15,551 | 3,601 | 2,090 | \$19,435 | \$25,419 | 5,823 | \$4.37 |
| 22-Mar | \$2,963 | \$1,481 | 54 | 7,104 | 2,301 | 4,979 | \$19,547 | \$16,690 | 7,223 | \$2.31 |

Identify Low Cost per Carton and High Cost per Carton Days

| Day | Facility Expense | Equipment Expense | Receive Pallet | Receive Carton | Pick Case | Pick Unit | Supply Expense | Total Cost | Cartons Shipped | Cost Per Carton |
|--------|------------------|-------------------|----------------|----------------|-----------|-----------|----------------|------------|-----------------|-----------------|
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| 22-Mar | \$2,963 | \$1,481 | 54 | 7,104 | 2,301 | 4,979 | \$19,547 | \$16,690 | 7,223 | \$2.31 |

Low Cost Per Carton Day

High Cost Per Carton Day

Key Cost Drivers Have Been Identified

| Day | Facility Expense \$80,000 | Equipment Expense \$40,000 | Receive Pallet \$4.00 | Receive Carton \$0.50 | Pick Case \$0.75 | Pick Unit \$0.25 | Supply Expense \$0.10 | Total Cost | Cartons Shipped | Cost Per Carton |
|--------|------------------------------|-------------------------------|--------------------------|--------------------------|---------------------|---------------------|--------------------------|------------|-----------------|-----------------|
| 1-Mar | \$2,963 | \$1,481 | 157 | 5,395 | 2,740 | 4,510 | \$20,022 | \$15,653 | 7,719 | \$2.03 |
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By leveraging your foretrack data, you can zero in on the exact cost driver by day.

Key Takeaways

Think Process

- **Foretrack Volume**
- **Use Engineered Standards to Identify Staffing Needs and Manage Productivity**
- **Identify and Understand Cost Drivers**



**Foretrack relentlessly...
and become a Business Expert**

Conference Cloud

Additional Resources

- **Other Presentations and Articles**

- [IRCE 2014 Presentation with Seventh Generation](#)
- [Inbound Logistics – Improving Inventory Accuracy](#)
- [Operations Summit Presentation with ModCloth](#)

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