

# Webinar: Developing a Demand-Driven Supply Chain Strategy: Demand Management



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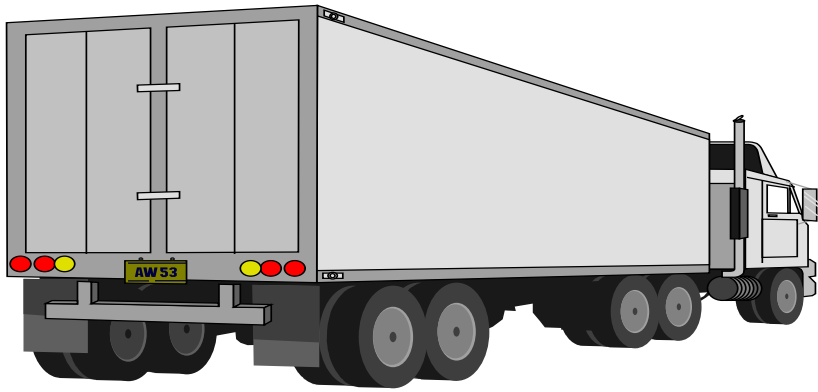
Supply Chain Management (SCM) Series  
Demand-Driven Supply Chain Strategy

**August 18-21, 2015** | Atlanta, GA

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# Demand Management - Agenda



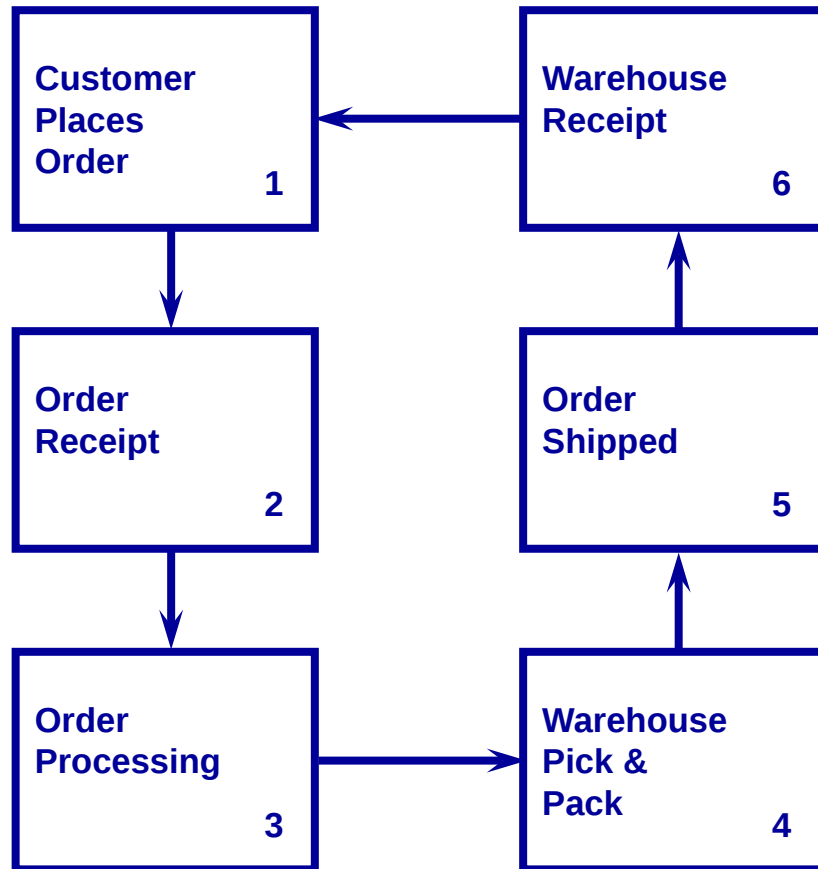
- **Order Cycle: The Bigger Picture**
- **Definitions of Demand Management**
- **Demand Management and Business Strategy**
- **Supply-Demand Misalignment**
- **Functional vs. Innovative Products**
- **Case Study: Sport Obermeyer**

# Matching Supply and Demand is Challenging

- Boeing Aircraft announced write-down of \$2.6 billion in October, 1997 due to “raw material shortages, internal and supplier parts shortages, and productivity inefficiencies ...”
- “2<sup>nd</sup> quarter sales at U.S. Surgical Corporation declined 25%, resulting in a loss of \$22 million. The sales and earnings shortfall is attributed to larger than anticipated inventories on the shelves of hospitals.”
- “IBM sells out New Aptiva PC; Shortage may cost millions in potential revenue”
- Campbell Soup’s winter marketing promotion caused a spike over and beyond the usual seasonal spike. Early production and inventory with overtime meant the cost of the excess production and inventory requirements far exceeded the revenue from the promotions.

Source: Dr. Julie Swann, Georgia Tech - ISyE

# Total Order Cycle: A Customer's Perspective



## Key

|   |                                                 |
|---|-------------------------------------------------|
| 1 | Order preparation and transmittal (orders sent) |
| 2 | Order received and entered into the system      |
| 3 | Order processing                                |
| 4 | Warehouse picking and packing                   |
| 5 | Transit time                                    |
| 6 | Warehouse receiving and placing into storage    |

## Example Times

Example Total Order Cycle Time

3 days

1 day

1 day

1 day

3 days

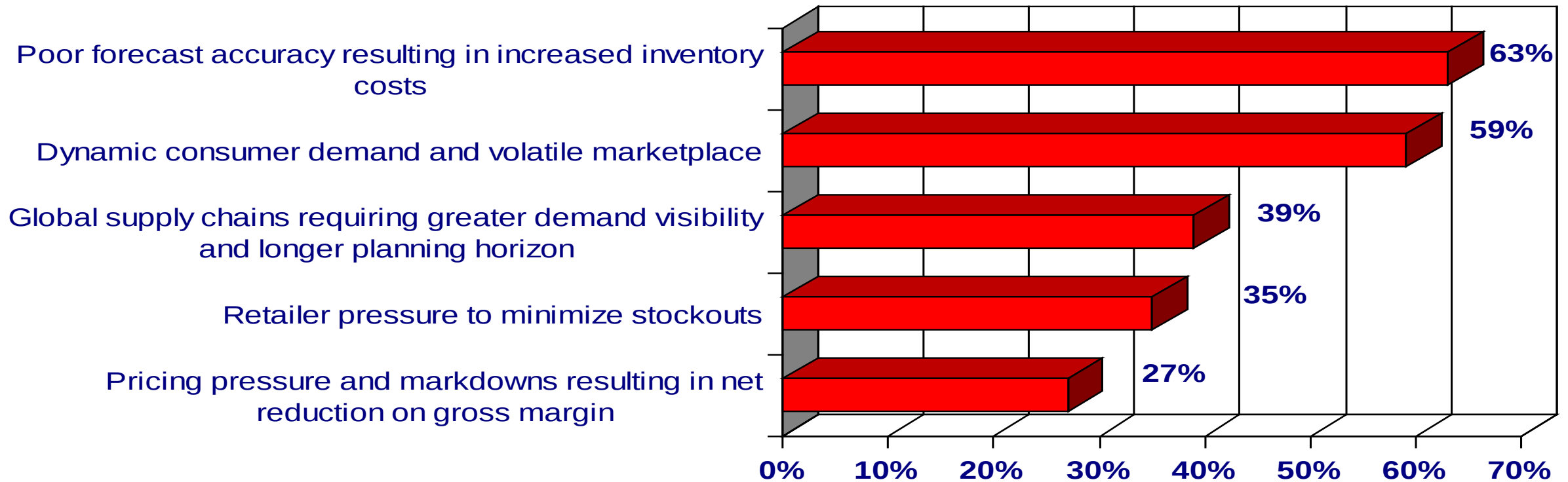
1 day

**10 days**

# Demand Management Defined

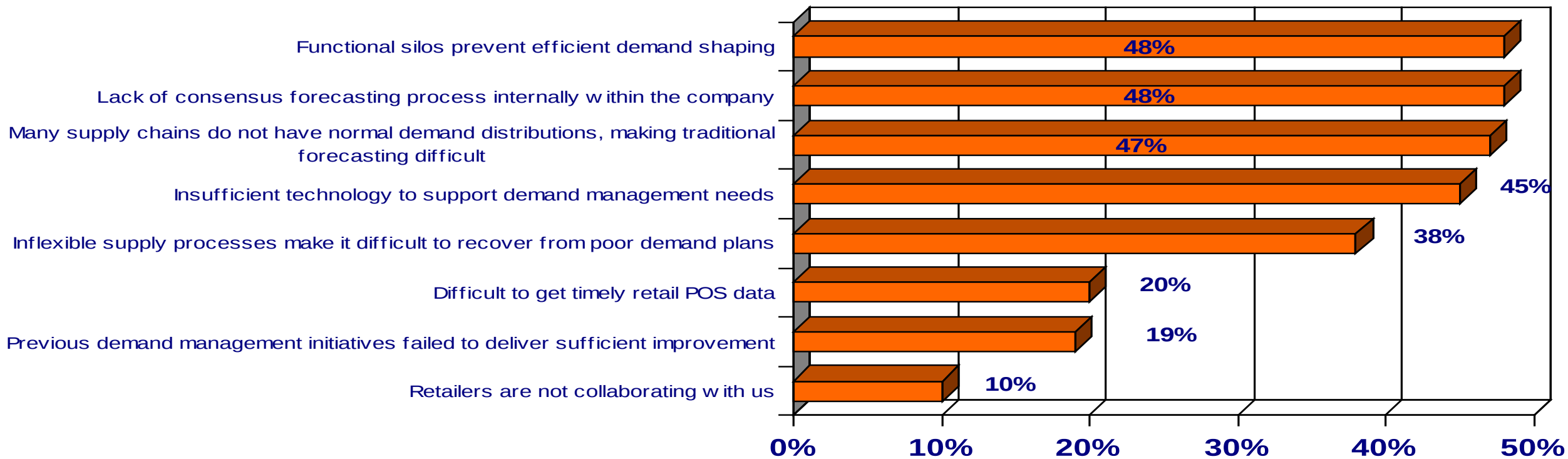
- **Demand Management** may be thought of as “focused efforts to estimate and manage customers’ demand, with the intention of using this information to shape operating decisions.” (Blackwell and Blackwell, SCMR, Fall, 1999).
- **Desired objective is to further ability of supply chain firms to collaborate on activities relating to flows of product, services, information, and capital, to create value for the end user or consumer**
- **Example benefits of demand management:**
  - Gathering and analyzing knowledge about consumers, their problems, and their unmet needs
  - Identifying partners to perform functions needed in demand chain
  - Shifting functions to demand chain member who can perform them most effectively and efficiently
  - Sharing knowledge about consumers and end users with other demand chain firms
  - Developing products and services that solve customers’ problems
  - Developing and executing the best logistics methods to deliver products and services to consumers in the desired format

# Top Pressures for Improving Demand Management Processes



Source: AberdeenGroup, November 2006.

# Barriers That Companies Face In Improving Demand Management



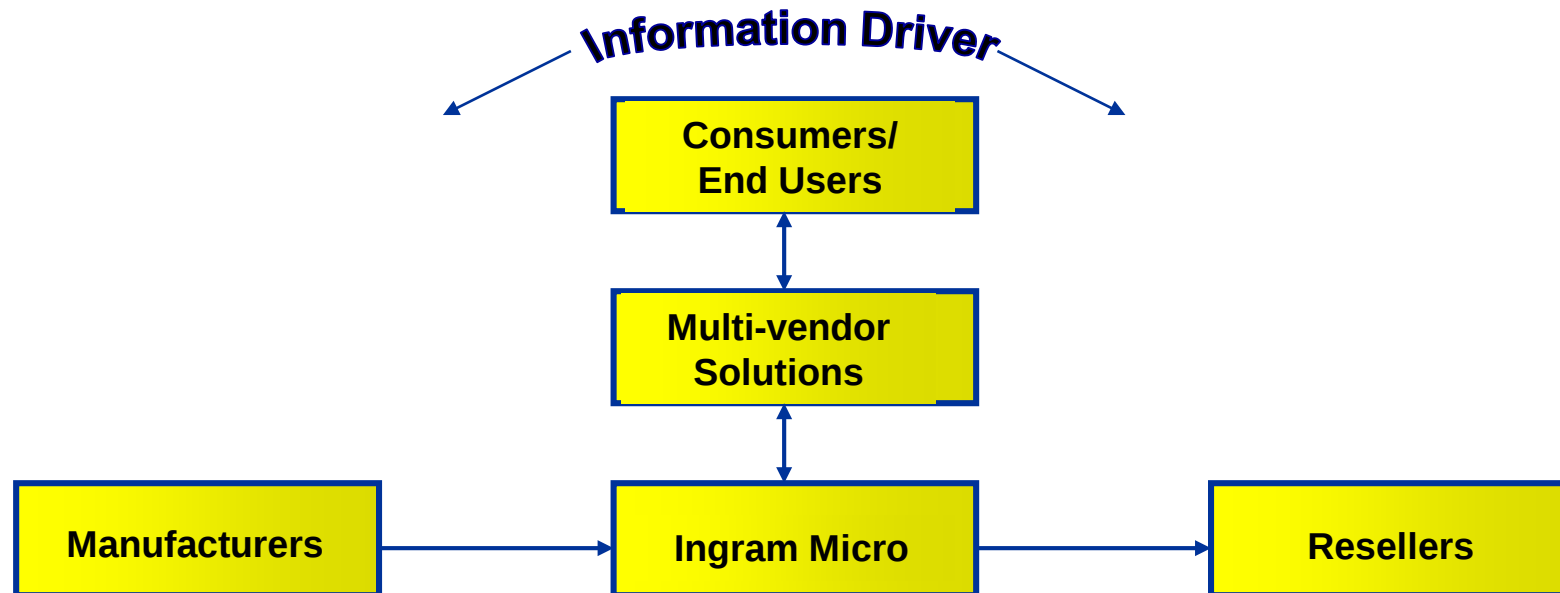
Source: AberdeenGroup, November 2006.

# Question for Consideration

- **What barriers have you experienced within your organization and/or do you foresee in improving demand management activity?**

# Demand Should Be The Driver of All Supply Chain Activity

- **Demand Management**: “Focused efforts to estimate and manage customers’ demand, with the intention of using this information to shape operating decisions” (Blackwell and Blackwell). Desired end result should be to create greater value for the end user or consumer.
- **Ingram Micro’s Demand Chain Leadership**

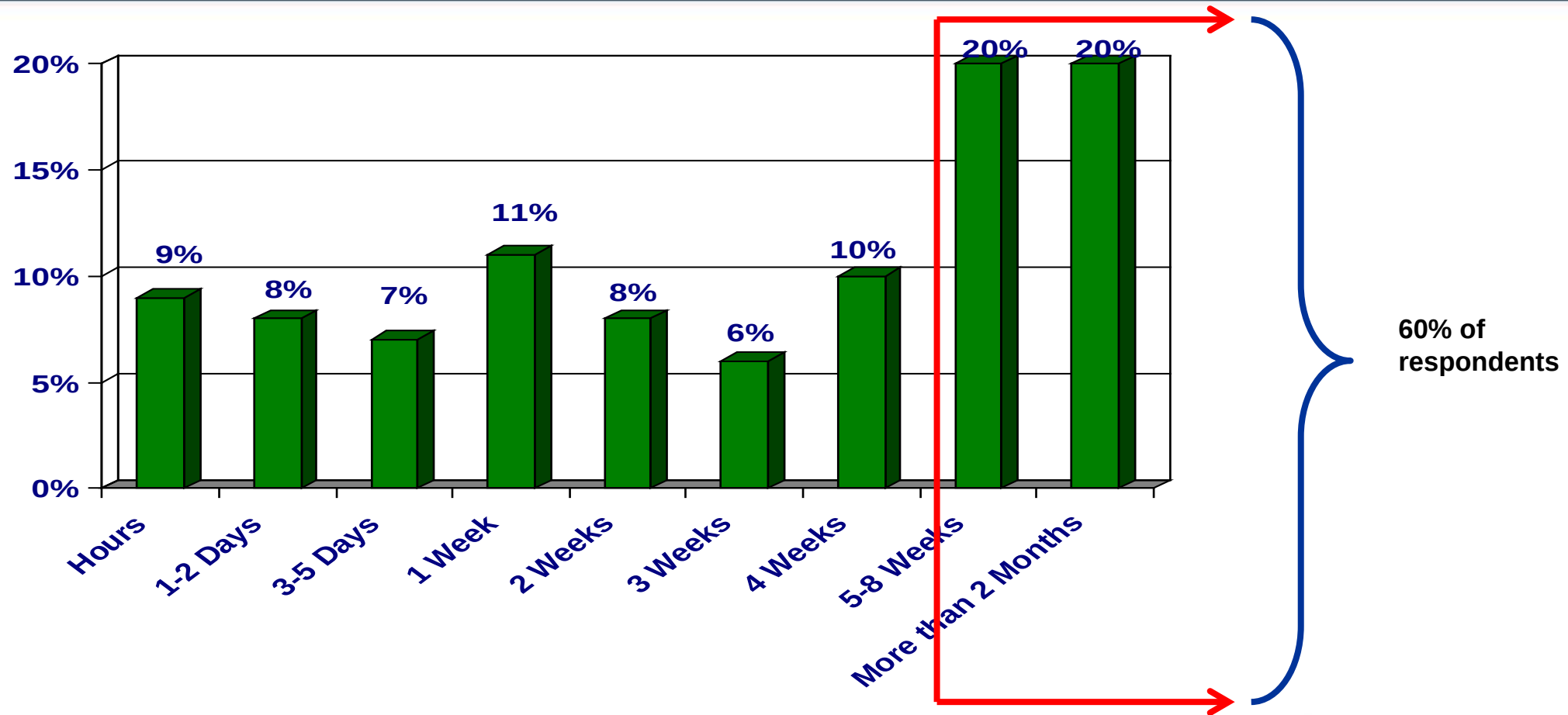


# How Demand Management Supports Business Strategy

| Strategy                    | Examples of How to Use Demand Management                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Growth Strategy</b>      | <ul style="list-style-type: none"><li>❑ Perform “what if” analyses on total industry volume to gauge how specific mergers and acquisitions might leverage market share</li><li>❑ Analyze industry supply/demand to predict changes in product pricing structure and market economics based on mergers and acquisitions</li><li>❑ Build staffing models for merged company using demand data</li></ul>                |
| <b>Portfolio Strategy</b>   | <ul style="list-style-type: none"><li>❑ Manage maturity of products in current portfolio to optimally time overlapping life cycles</li><li>❑ Create new-product development/introduction plans based on life cycle</li><li>❑ Balance combination of demand and risk for consistent “cash cows” with demand for new products</li><li>❑ Ensure diversification of product portfolio through demand forecasts</li></ul> |
| <b>Positioning Strategy</b> | <ul style="list-style-type: none"><li>❑ Manage product sales through each channel based on demand and product economics</li><li>❑ Manage positioning of finished goods at appropriate distribution centers, to reduce working capital, based on demand</li><li>❑ Define capability to supply for each channel</li></ul>                                                                                              |
| <b>Investment Strategy</b>  | <ul style="list-style-type: none"><li>❑ Manage capital investments, marketing expenditures, and R&amp;D budgets based on demand forecasts of potential products and maturity of current products</li><li>❑ Determine whether to add manufacturing capacity</li></ul>                                                                                                                                                 |

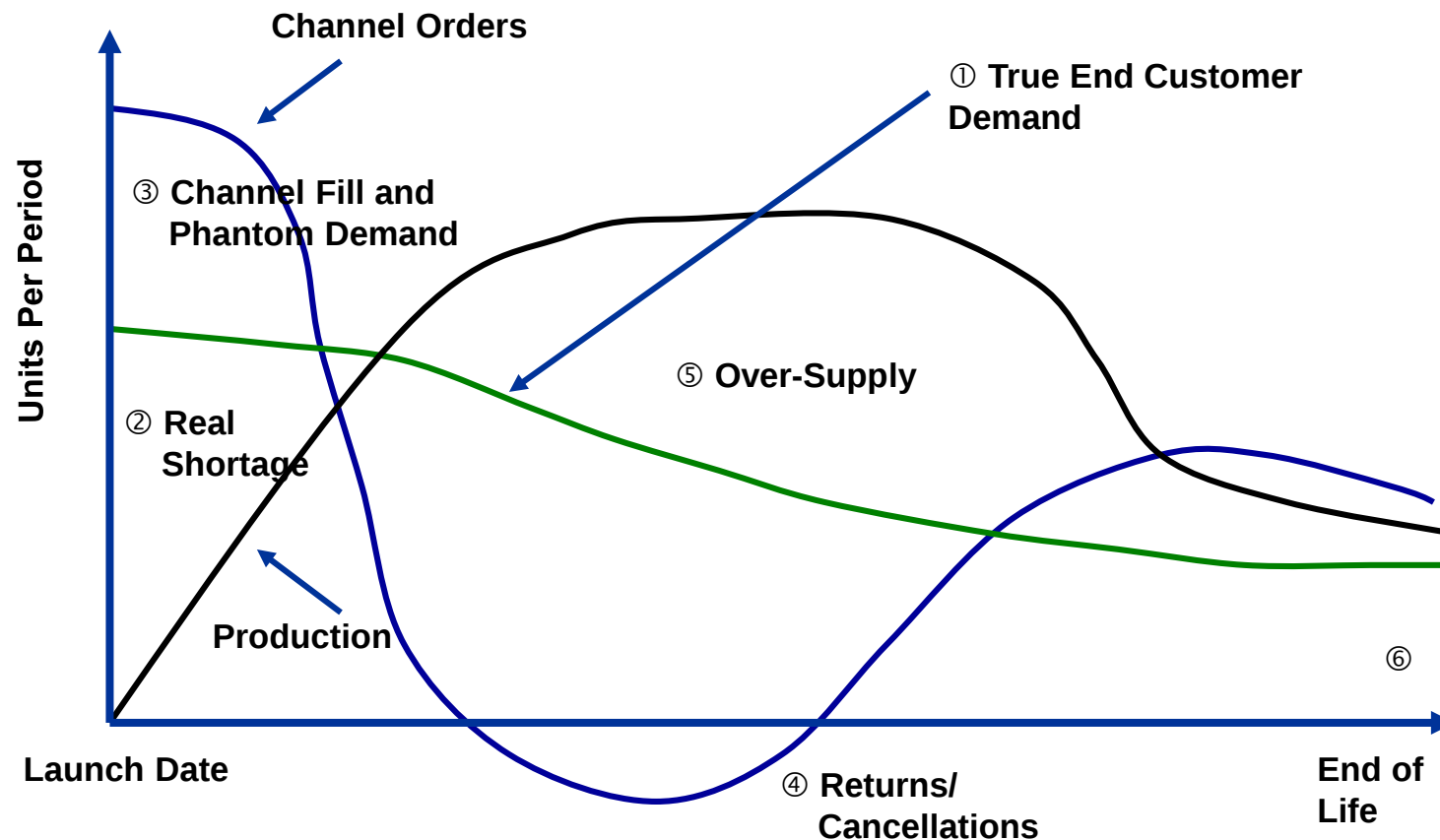
Source: Jim Langabeer, “Aligning Demand Management With Business Strategy,” *Supply Chain Management Review*, May/June 2000.

# Time It Takes for Companies to Sense Changes in Demand



Source: AberdeenGroup, November 2006.

# Supply-Demand Misalignment: The Need for Demand Management



- ① True end customer demand
- ② Production cannot meet initial projected demand, resulting in real shortages
- ③ Channel partners over-order in an attempt to meet demand and stock their shelves
- ④ As supply catches up with demand, orders are canceled or returned
- ⑤ Financial and production planning are not aligned with real demand; therefore, production continues
- ⑥ As demand declines, all parties attempt to drain inventory to prevent write-down

Source: Adapted from Accenture.

# Functional vs. Innovative Products

## ● Functional Products

- Staples available in wide variety of retail outlets (e.g., grocery stores, gas stations, etc.)
- They do satisfy “basic” needs, which do not change much over time
- Have stable, predictable demand and long life cycles
- However, stability invites competition, leading to lower profit margins

## ● Innovative Products

- May be inherently innovative, or product-line extensions
- Very newness of innovative products makes demand for them difficult to predict, and product life cycles are often shorter
- Overall, require fundamentally different supply chain than do functional products

Source: Marshall Fisher, “What is the Right Supply Chain For Your Product?”, *Harvard Business Review*, March-April, 1997.

# Functional vs. Innovative Products

| <i>Aspects of Demand</i>                                            | <i>Functional<br/>(Predictable Demand)</i> | <i>Innovative<br/>(Unpredictable Demand)</i>   |
|---------------------------------------------------------------------|--------------------------------------------|------------------------------------------------|
| Product Life Cycle                                                  | More Than 2 Years                          | 3 Months to 1 Year                             |
| Contribution Margin                                                 | 5% - 20%                                   | 20% - 60%                                      |
| Product Variety                                                     | Low (10 to 20 Variants Per Category)       | High (Often Millions of Variants Per Category) |
| Average Margin of Error in Forecast at Time Production is Committed | 10%                                        | 40% - 100%                                     |
| Average Stockout Rate                                               | 1% - 2%                                    | 10% - 40%                                      |
| Average Forced End-Of-Season Markdown as Percentage of Full Price   | 0%                                         | 10% - 25%                                      |
| Lead Time Required For Made-To-Order Products                       | 6 Months to 1 Year                         | 1 Day to 2 Weeks                               |

Source: Marshall Fisher, "What is the Right Supply Chain For Your Product?", *Harvard Business Review*, March-April, 1997.

# Functional vs. Innovative Products

|                                | Functional Products | Innovative Products |
|--------------------------------|---------------------|---------------------|
| <u>Efficient</u> Supply Chain  | MATCH               | MISMATCH            |
| <u>Responsive</u> Supply Chain | MISMATCH            | MATCH               |

Source: Marshall Fisher, "What is the Right Supply Chain For Your Product?", *Harvard Business Review*, March-April, 1997.

# Sport Obermeyer Case Study

***Sport Obermeyer***

***(Case Analysis)***

# Case Study: Sport Obermeyer



- **Based in Aspen; Design/Manufacture Fashion Skiwear**
- **Market Through 800 Specialty Retailers in U.S.**
- **95% of Products New Each Year ... Continual Challenges of Demand Uncertainty**
  - Stockouts of “hot” items during selling season
  - Markdowns of “dog” items at end of season
- **Long Lead Times Forced Early Ordering of Products With More “Certain” Demand**
- **“Accurate Response” Cut Costs of Over- and Under-Production by One-Half, Increasing Profits by 60%**

Source: Marshall Fisher, “What is the Right Supply Chain For Your Product?”, *Harvard Business Review*, March-April, 1997.



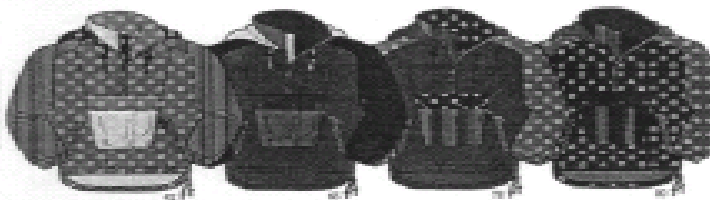
### GIRL'S Sport Ski

|           |  |                        |  |
|-----------|--|------------------------|--|
| ABC Shell |  | \$49.95 (MSRP \$59.95) |  |
| P99215    |  | \$59.95 (MSRP \$69.95) |  |
| P99215    |  | S M L XL               |  |

|     |                      |  |  |
|-----|----------------------|--|--|
| 42  | Wool & Fleece Padded |  |  |
| 44  | Wool & Fleece Padded |  |  |
| 46  | Wool & Fleece Padded |  |  |
| 48  | Wool & Fleece Padded |  |  |
| 50  | Wool & Fleece Padded |  |  |
| 52  | Wool & Fleece Padded |  |  |
| 54  | Wool & Fleece Padded |  |  |
| 56  | Wool & Fleece Padded |  |  |
| 58  | Wool & Fleece Padded |  |  |
| 60  | Wool & Fleece Padded |  |  |
| 62  | Wool & Fleece Padded |  |  |
| 64  | Wool & Fleece Padded |  |  |
| 66  | Wool & Fleece Padded |  |  |
| 68  | Wool & Fleece Padded |  |  |
| 70  | Wool & Fleece Padded |  |  |
| 72  | Wool & Fleece Padded |  |  |
| 74  | Wool & Fleece Padded |  |  |
| 76  | Wool & Fleece Padded |  |  |
| 78  | Wool & Fleece Padded |  |  |
| 80  | Wool & Fleece Padded |  |  |
| 82  | Wool & Fleece Padded |  |  |
| 84  | Wool & Fleece Padded |  |  |
| 86  | Wool & Fleece Padded |  |  |
| 88  | Wool & Fleece Padded |  |  |
| 90  | Wool & Fleece Padded |  |  |
| 92  | Wool & Fleece Padded |  |  |
| 94  | Wool & Fleece Padded |  |  |
| 96  | Wool & Fleece Padded |  |  |
| 98  | Wool & Fleece Padded |  |  |
| 100 | Wool & Fleece Padded |  |  |

Features: • Windproof • Waterproof • Breathable • Warm • Soft • Durable • Easy to Care • Machine Washable • Dry Cleanable • Available in a variety of colors • Sizes 42 to 100 • 100% Polyester

### WHOLESALE CATALOGUE



42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100



## MEN

### CONSUMER BROCHURE



Features: • Windproof • Waterproof • Breathable • Warm • Soft • Durable • Easy to Care • Machine Washable • Dry Cleanable • Available in a variety of colors • Sizes 42 to 100 • 100% Polyester



## NATIONAL ADVERTISING CAMPAIGN

# OBERMEYER

(Slogan from the Heart of the Mountains, Open, Colours, Thermal)

# Highlights of Sport Obermeyer Annual Design-Production-Sales Process

18-20  
Months

|                               |                                                                                  |
|-------------------------------|----------------------------------------------------------------------------------|
| February 1992                 | Design Process Begins for 93-94 Line                                             |
| March 1992                    | Las Vegas Show for 92-93 Line                                                    |
| November 1992                 | Place <b><u>First</u></b> Production Run with Obersport                          |
| March 1993                    | Las Vegas Show for 93-94 Line                                                    |
| March 1993                    | Place <b><u>Second</u></b> Production Run with Obersport                         |
| April-June 1993               | Additional Retailer Orders Received                                              |
| October 1993 –<br>Spring 1994 | Ski Season for Design Process That Began in February 1992 – 18-20 months earlier |

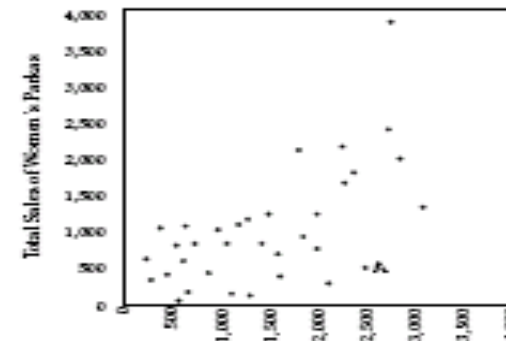
# Question for Consideration

- What do you see as being Sport Obermeyer's key challenges?

# Case Study: Sport Obermeyer

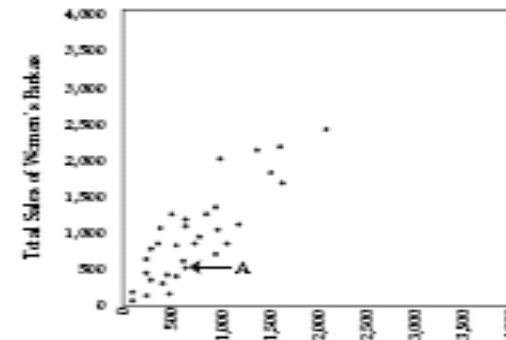


Exhibit 5 How Demand Forecasts Improve with Increasing Information



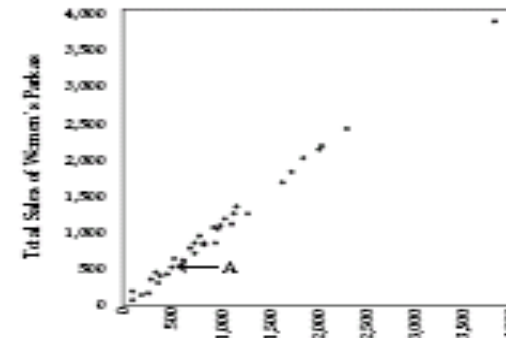
*Initial Forecast*

Each data point represents the forecast and actual season sales for a particular parka (at the style-color level). For example, parka A had an initial forecast of 2,500 units and season sales of 510 units.



*Updated Forecast, Incorporating First 20% of Sales Data*

After observing 20% of demand, the revised forecast for parka A was 575 units.



*Final Forecast, Incorporating First 80% of Sales Data*

After observing 80% of demand, the final forecast for parka A was 500 units.

# Case Study: Sport Obermeyer



**Exhibit 10 Sample Buying Committee Forecasts, 10 Styles of Women's Parkas**

|           |                    | Individual Forecasts |         |        |        |        |        | Average Forecast | Standard Deviation | 2 x Std. Deviation |
|-----------|--------------------|----------------------|---------|--------|--------|--------|--------|------------------|--------------------|--------------------|
| Style     | Price <sup>a</sup> | Laura                | Carolyn | Greg   | Wendy  | Tom    | Wally  |                  |                    |                    |
| Gail      | \$110              | 900                  | 1,000   | 900    | 1,300  | 800    | 1,200  | 1,017            | 194                | 388                |
| Isis      | \$90               | 800                  | 700     | 1,000  | 1,600  | 950    | 1,200  | 1,042            | 323                | 646                |
| Enrica    | \$80               | 1,200                | 1,600   | 1,500  | 1,550  | 950    | 1,350  | 1,358            | 248                | 496                |
| Assault   | \$90               | 2,500                | 1,900   | 2,700  | 2,450  | 2,800  | 2,800  | 2,525            | 340                | 680                |
| Teri      | \$123              | 800                  | 900     | 1,000  | 1,100  | 950    | 1,850  | 1,100            | 381                | 762                |
| Electra   | \$173              | 2,500                | 1,900   | 1,900  | 2,800  | 1,800  | 2,000  | 2,150            | 404                | 807                |
| Stephanie | \$133              | 600                  | 900     | 1,000  | 1,100  | 950    | 2,125  | 1,113            | 524                | 1,048              |
| Seduced   | \$73               | 4,600                | 4,300   | 3,900  | 4,000  | 4,300  | 3,000  | 4,017            | 556                | 1,113              |
| Antia     | \$93               | 4,400                | 3,300   | 3,500  | 1,500  | 4,200  | 2,875  | 3,296            | 1,047              | 2,094              |
| Daphne    | \$148              | 1,700                | 3,500   | 2,600  | 2,600  | 2,300  | 1,600  | 2,383            | 607                | 1,204              |
| Totals    |                    | 20,000               | 20,000  | 20,000 | 20,000 | 20,000 | 20,000 | 20,000           |                    |                    |

<sup>a</sup>Obermeyer's wholesale price

## Notes

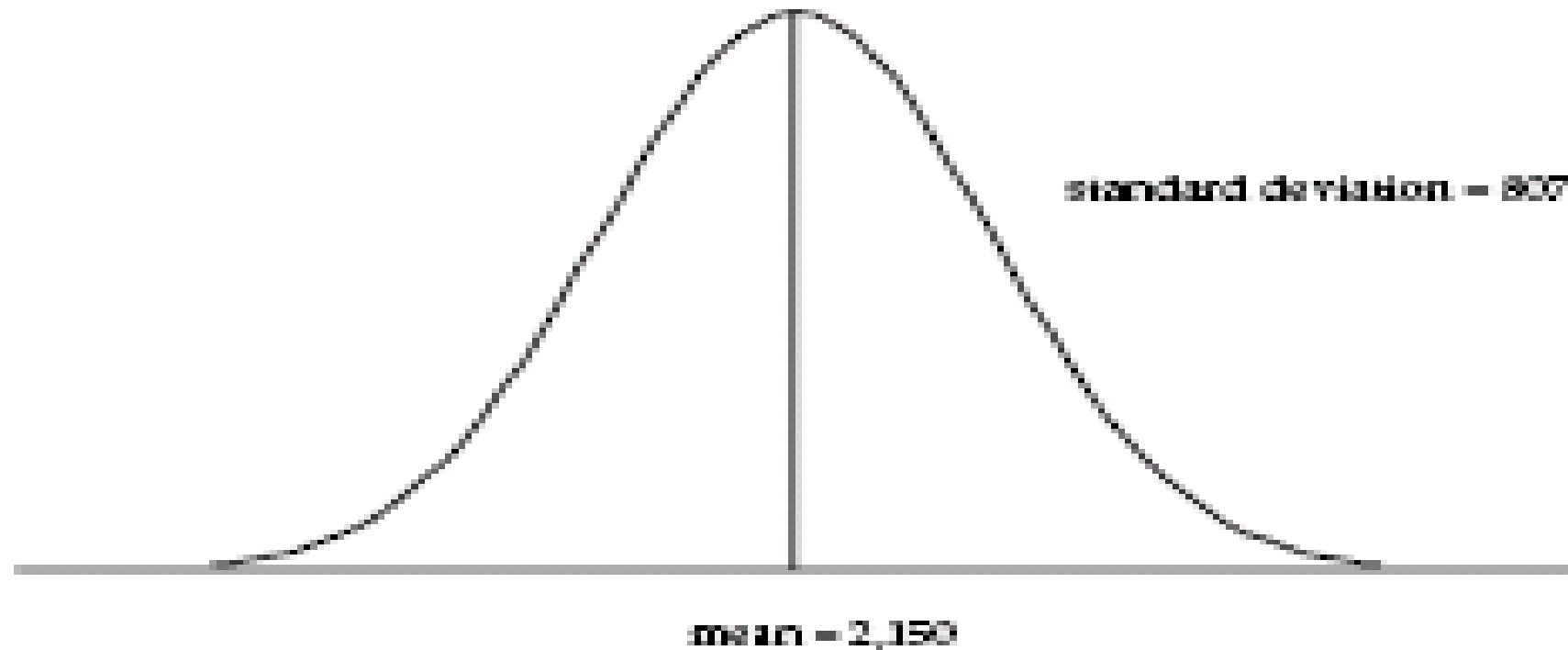
Laura Kornashewicz was marketing director  
 Carolyn Gray was customer service manager  
 Greg Hunter was production manager

Wendy Hemphill was production coordinator  
 Tom Tweed was a sales representative  
 Wally Obermeyer was vice president

# Case Study: Sport Obermeyer



**Exhibit 11 Forecast Distribution for the Electra Parka (Forecast parameters from Exhibit 10)**



# Sport Obermeyer – Results

|                                      | Sport Obermeyer's Decisions | Model's Decisions |
|--------------------------------------|-----------------------------|-------------------|
| Total Production (Units)             | 121,432                     | 124,805           |
| Over-Production (Units)              | 25,094                      | 22,036            |
| Under-Production (Units)             | 7,493                       | 792               |
| Over-Production as Percent of Sales  | 1.74%                       | 1.30%             |
| Under-Production as Percent of Sales | 1.56%                       | 0.18%             |
| Total Cost as Percent of Sales       | 3.30%                       | 1.48%             |

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## Questions?

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