Supply Chain Transformation with Limited Resources
for
Medical Device
Supply Chain Council

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Business Summary

**Company Background**

- 65 year old international company
- Family-owned and managed since 1984
- ISO 13485 Registered & Compliant
- HQ in Waukegan, IL
- Distribution centers in Waukegan, Illinois; Clive, Iowa; and Jesup, GA
- Manufacturing operations in Clive, Iowa
- Approximately 325 employees
- Over 8,000 products in stock across 23 categories
- Fully data compliant to EDI / GS1 standards

**Primary Operating Businesses**

- **Home Healthcare Products** – Wide range of diagnostic, aid-for-living, mobility, and comfort-care products for consumer markets, sold through large retailers and distributors under company and customer brand names
- **Hospital Products** – Handheld diagnostic and patient-care products used in hospitals, sold primarily through large distributors under customer brand names
- **Obstetrics** – Oldest and most trusted niche line of labor-and-delivery products
- **Medical Records** – The “gold standard”, market-leading paper medical forms used primarily in extended-care settings. Products manufactured in company facilities by employees

**Market Leadership**

- Leading provider of wide array of consumer home healthcare products to retail and distributor markets. **#1 position in digital thermometers in US**
- Producer of high-quality and high-value medical products used in hospitals throughout the country. #1 position in obstetrics products
- Trusted category partner for some of the world’s largest brick-and-mortar retailers and medical distributors
- Award-winning line up of medical products
- Recognized top supplier for supply chain execution by customers

**Select Product Examples**
Agenda:
» The Problem – Supply Chain!
» Path to improvement
» Key improvement initiatives
» Driving big results with few resources
» Conclusions
The Troubled Supply Chain

**Situation**

1. Supply Chain viewed as the cause of the decline of the business
   - No S&OP Process
   - No inventory strategy

2. No Supplier Management Process/Program
   - Acquisition cost challenges
   - Lack of visibility into suppliers

3. Inefficient inbound transportation mgmt
   - High LCL
   - Embedded freight costs

4. Ineffective distribution network

5. Poor Customer Execution
   - High backorders
   - Poor fill rates
Briggs Healthcare Supply Chain Improvement Vision and Path

<table>
<thead>
<tr>
<th>Vision</th>
<th>What?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>We will become the trusted center of supply chain excellence for our</td>
<td>Culture / People</td>
<td>• Hire winning talent</td>
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<tr>
<td>customers through our consistent achievement of Reliability,</td>
<td></td>
<td>• Develop a culture of accountability</td>
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<tr>
<td>Responsiveness, and Cost measures enabling Briggs to become the</td>
<td>Operational Excellence</td>
<td>• Build supply chain knowledge</td>
</tr>
<tr>
<td>partner of choice in the marketplace</td>
<td>Tools &amp; Technology</td>
<td>• Set strategic goals and KPI targets and track progress against</td>
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<td></td>
<td>Performance Measurement</td>
<td>• Launch continuous improvement methodology and projects</td>
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<td></td>
<td></td>
<td>• Develop business intelligence platform with end-end visibility</td>
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<tr>
<td></td>
<td></td>
<td>• Automation of tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Briggs Supply Chain scorecard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Customer scorecards</td>
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<tr>
<td></td>
<td></td>
<td>• Supplier scorecards</td>
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### Transforming the Supply Chain

**14 Month Journey**

<table>
<thead>
<tr>
<th>Strategic Initiatives</th>
<th>Marketing</th>
<th>Sales</th>
<th>Demand Planning</th>
<th>Sourcing</th>
<th>Procurement Deployment</th>
<th>Distribution</th>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>- NPD forecasting</td>
<td>- E&amp;O</td>
<td>- Forecast</td>
<td>- Forecast</td>
<td>- EOQ/MOQ</td>
<td>- Elimination of Backorders</td>
<td>- Elimination of Backorders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- ownership</td>
<td>accuracy</td>
<td>ownership</td>
<td>- LCL</td>
<td>- Response times</td>
<td>- Response times</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Consolidation</td>
<td></td>
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</table>

**Installing Visibility / Analytics**

- E&O reduction of 30%
- Forecast accuracy improvement of 60%
- 20% of SKUs rationalized
- Dynamic safety stock improvement
- Tiered supplier management program
- Split shipment reduction
- Fill Rate / Perfect order optimization
- Reduction of 50% of DC’s
- Reduction of 35% of inventory $
- Improved fill rate by 600 BPS
- Reduced backorders by 90%

**Integrated S&OP Business Intelligence System**

- Customer level supply chain scorecards
Building the S&OP Organization

The Plan

1. Develop the roadmap – Lots of opinions

2. Critical Metrics – Lots of data, not a lot of analytics

3. ABC Inventory Classification – Focus on what’s important

4. Backorder Reduction

5. MRB – Stop tying up my money!

6. S&OP

7. Your turn! – Sales & Marketing
Inventory Classification (ABC)

**Historical Challenge**
- All inventory treated equally
- No safety stock for important SKUs
- No ability to communicate an accurate SKU count
- Lack of defined investment approach for new products, top selling products and slower move items

**Business Impact**
- Proper inventory dollar investment is being made based on importance of product, reducing risk of obsolete inventory and backorders
- All SKUs are classified as A, B or C with a corresponding service level based on sales, margin, customer
- All items reviewed with sales and marketing

**% Sales by ABC**
- 7% A
- 17% B
- 75% C

**SKU Count**
- A, 800
- B, 1700
- C, 3500
- D, 2000

Inventory levels for important “A” items will increase and inventory levels for B and C items will decrease.
Backorder Reduction

Historical Challenge
- Viewed as key driver of lost business
- 120 day lead times on average
- Backorders were greater than 12% of monthly sales revenues
- Events like CNY crippled the business for months and created bull-whip reactions
- No visibility into get well dates or root cause
- Limited accountability and reporting
- Driven by lack of S&OP process – problems repeated themselves
- BKO goals were not aligned to the business expectations

Business Impact
- 2012 ended with backorders at 0.7% of monthly sales which beat the goal of 1.5%
- Average age of an item on backorder has dropped from 40 days to 13 days
- Backorders are managed daily
- Improved get well date accuracy
- Supply has become predictable and can be counted on
- Very few “surprises”
Held Inventory Reduction

**Historical Challenge**
- MRB process was not working – inventory went on hold and stayed on hold until thrown away (average hold time greater than 1 year)
- Not a priority to define root cause of holds and eliminate
- Held inventory value and age were not visible nor managed

**Business Impact**
- Held inventory at an all time low for both dollars and age
- Improved awareness and daily held inventory process working to ensure age reaches 30 days or less in 2012
- Reduced likelihood of scrapping inventory
- Hold suppliers and freight companies accountable
Demand Planning - Trend Tool Structure

- Combines several data sources removing manual combination
- Performs automated analytics to the Demand Plan and groups by exception
- Enables easy filtration of data
- Automatically generates S&OP data for reporting purposes
- Tracks every change to the Demand Plan for performance reporting and audit ability
Low Cost Solutions to high dollar problems

Trend Tool

<table>
<thead>
<tr>
<th>Without</th>
<th>With</th>
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<tbody>
<tr>
<td>Review Queue (Item/Branch)</td>
<td>16,000</td>
</tr>
<tr>
<td>Setup</td>
<td>Manual</td>
</tr>
<tr>
<td>Item Level Review</td>
<td>No</td>
</tr>
<tr>
<td>Reviewed by Exception</td>
<td>No</td>
</tr>
<tr>
<td>Plan Change Reporting</td>
<td>No</td>
</tr>
<tr>
<td>Review Quality</td>
<td>Low</td>
</tr>
<tr>
<td>Total FTE</td>
<td>2</td>
</tr>
<tr>
<td>Review Duration (Days)</td>
<td>25</td>
</tr>
<tr>
<td>Work/Day/FTE (Items Reviewed)</td>
<td>320</td>
</tr>
<tr>
<td>Efficiency Gain</td>
<td>-</td>
</tr>
<tr>
<td>Needed Manual FTEs</td>
<td>-</td>
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Implement quick-hit tools that enable game changing results with little investment of resources
Buyer Tool fills many of the gaps unavailable resources would fill

- Analyzes forecast and calculates necessary buy sizes to maintain optimal inventory
- Adjust Safety Stock Calculations on the fly
- Considers total supply chain inventory and suggest buy sizes into multiple DC locations
- Shows buy messages only by exception; inventory is needed
- Generates automated exception based procurement reporting for management daily
Sales and Operations Planning (S&OP)

**Historical Challenge**

- No forward looking dollarized view of the business or understanding of drivers; forecast not used
- Items with sales trending down/up constantly over/under planned
- Lack of visibility into key supply chain metrics
- Limited ability to avoid potential problems from a supplier capacity perspective
- Limited visibility into promotional sales spikes with enough time to react

**Business Impact**

- Demand Plan is generated for all items
- Items with sales trending down/up are planned appropriately
- Key items reviewed with sales and marketing
- Item forecasts measured and reviewed every month for improvement
- Demand, Supply, and Accuracy Reporting
- Promotional events discussed and included in Demand Plan on monthly basis
DC Network Optimization

**Historical Challenge**
- Total of 6 DCs
- Series of DCs added to network via company acquisition
- Inefficient footprint driving high inbound costs
- High DC transfer costs
- High outbound split shipments >35%

**Business Impact**
- Closed 3 of 6 DCs
- Eliminated over $300K in annual transfer freight costs
- Reduction of inventory levels by 30% while improving fill rates
- Reduction of 93% of split shipments
- Eliminated 25% of LCL shipments
- Increased outbound costs offset by transfer freight savings, increased ordering minimums and aggressive freight bidding
Measuring the Value of Supply Chain

From March 2011 through Dec 2012

Qualitative

• Increased responsiveness
• Forward looking view of the business
• Anticipation of problems – Prevention identification
• Balanced communication
• Transparency
• Fact checking against “gut” decision making
• Competitive advantage

Quantitative

• Reduction in backorders by 90%
• Improved Forecast Accuracy by 60%
• Reduced Inventory by 25%
• Reduced Excess and Obsolete inventory by 35%
• Reduced Held inventory by 80%
• Improved resource efficiency by 40%
• Improved Fill Rate by 600 basis points

The S&OP process is the business center piece providing critical information for decision support
Change Management

• Gain buy in from the organization
  • Resources internal to supply chain
  • Stakeholders
  • Communication

• Implementing change
  • Scorecards / Goals
  • Reducing frustrations
  • Communicating progress
  • Demonstrating results

• Measuring change
  • Identify pain points
  • Surveys
  • Employee focus groups

• Celebrate successes
Learning's

1) Plan in two simultaneous phases
   • Quick hits – stop the bleeding, choose resources wisely
   • Longer term – Bigger picture, multi-year ROI

2) Communicate often and in multiple vehicles & formats
   • Internal vs. External (across departments and with customers)
   • Metrics, projects, future states

3) Use early wins to build credibility and investors
   • Celebrate appropriately
   • Results become “influence” and a call for change

4) Continue to reset the bar and drive improvements
   • Continuous improvement mindset
   • “Upskilling” and training
   • Organizational evolution
Thank You

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