Managing End-to-End Supply Chain Costs in a Down Economy

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As an analyst with AMR Research’s Research and Advisory Group, Jane Barrett specializes in supply chain research for manufacturers. Jane covers trends and best practices in Sales & Operations Planning, Supply Management and Collaborative Commerce. Jane brings over 20 years of experience in business consulting and ERP to her role as a research director. She has helped global organizations and mid-market manufacturers plan, design, and implement solutions that achieve their business objectives, involving globalization, standardization and change management. She has led the development of tools and methodologies to enable project management, process design, lean initiatives, and performance metrics. Jane earned her Bachelor of Arts from the University of Natal, South Africa.

20+ years in IT, manufacturing, technology, ERP and consulting industries:
• 2 ½ years at AMR Research focusing on core supply chain for Manufacturing organizations
• 5 years in the US helping industrial and medical device manufacturers and automotive suppliers reorganize, improve processes and deploy ERP
• 9 years in South Africa working with multi-nationals and large South African organizations in industrial, auto, CPG and pharma (own business)
• 7 years with Hewlett Packard and Unilever in South Africa
AMR Research is an advisory and research firm focused on manufacturing and retail supply chains, enterprise applications and software strategies.

Since 1986, we have focused on the intersection of business process with supply chain, and enterprise technologies.

We help clients through retained advisory services and peer networking forums.
Managing End-to-End Supply Chain Costs in a Down Economy

Leaders are focusing on surviving the recession in a way that prepares them for the recovery. The only thing worse than not scaling down fast enough in a downturn is being caught flat footed at the recovery and losing share to competitors. While survival is the name of the game, there are steps you can take to cut costs in the short term and position yourself to detect and profit from the recovery when it comes. This session will help you think about these five areas while you focus on short term survival as well as longer term opportunity:

- Supplier relationship and risk management has become a strategic priority
- Managing commodities in an economy with extreme commodity price volatility
- In the desperate pursuit of revenue, maintain customer profitability by controlling cost to serve
- While reducing capacity, restructure your value chain to be more efficient, scaleable and responsive to uncertain demand
- Get the most for your scarce R&D dollars by tightening your product portfolio management and stage gate process

Bottom Line: Companies change during a recession. Will the changes you make just help you survive or will you emerge stronger than before?
Traditional Supply Chains

**Demand**
- Customer

**Supply**
- Supplier
- Traditional Definition of Supply Chain Management

**Product**
- Design partner
Demand-driven Processes

Technology

Opportunities

Demand Insights

Demand

Shape Demand

Sense Demand

Supply

Drive a Profitable Demand Response

Product

Supply Risk Management

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Agenda

• Supplier relationship and risk management
• Managing commodities
• Customer profitability through cost to serve
• Agility - become more efficient, scalable and responsive
• Product portfolio management
Understand the Metric Interdependencies

Companies with better supplier on-time delivery performance....
Hold half the inventory (17 vs. 35 days) and have an eight point better perfect order performance.

Source: AMR Benchmark Analytix
Company A: Supplier Performance --- Potential Impacts

- Low Supplier Performance
- Long payment time to suppliers

Can contribute to:
- High Raw Material Inventory
- Low Plant Utilization
- High Purchasing Op Cost

(Where Co. A is receiving raw materials from direct material suppliers)

- High Inaccurate Ships
- Poor Quality of Finished Goods
- Higher Finished Goods Inventory

(Where Co. A is receiving finished goods from contract manufacturers)
The risks have increased....

Supply management risk categories

<table>
<thead>
<tr>
<th>Area of focus/strategy</th>
<th>Type of risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract management</td>
<td>Compliance risk</td>
</tr>
<tr>
<td>Network design for agility</td>
<td>Supplier/logistics risk</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>Brand risk</td>
</tr>
<tr>
<td>Hedging strategies</td>
<td>Cost risk</td>
</tr>
<tr>
<td>Supplier development/supply base monitoring</td>
<td>Capacity risk</td>
</tr>
<tr>
<td>Multisourcing strategies</td>
<td>Supplier failure risk</td>
</tr>
<tr>
<td>Supplier qualification and audit program</td>
<td>Quality risk</td>
</tr>
<tr>
<td>Alternates and substitute materials, suppliers, and design</td>
<td>Availability risk</td>
</tr>
<tr>
<td>Spend management</td>
<td>Market risk</td>
</tr>
<tr>
<td>Intellectual property management and traceability</td>
<td>IP and counterfeit risk</td>
</tr>
<tr>
<td>Employee learning and growth programs</td>
<td>Workforce risk</td>
</tr>
<tr>
<td>IT strategy</td>
<td>Data risk</td>
</tr>
</tbody>
</table>

Source: AMR Research, 2007
How financially viable are your suppliers?

<table>
<thead>
<tr>
<th>Supplier financial health risk assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic Issues</strong></td>
</tr>
<tr>
<td>Expansion/contraction—Reports of acquisitions or divestitures in the recent year</td>
</tr>
<tr>
<td>Collaboration—New agreements with other companies and/or new divisions within a current relationship</td>
</tr>
<tr>
<td>Product—New product or service available</td>
</tr>
<tr>
<td>Contracts—Opening and closing contractual agreements with suppliers and customers</td>
</tr>
<tr>
<td>Industry—Large-scale market and industry changes to next tier suppliers</td>
</tr>
<tr>
<td><strong>Operations Issues</strong></td>
</tr>
<tr>
<td>Cost—Cost-reduction activities</td>
</tr>
<tr>
<td>Dispose—Sale of assets or reduction of assets</td>
</tr>
<tr>
<td>Commercial—Increase or decrease in marketing efforts</td>
</tr>
<tr>
<td>Upgrade—Product and/or process improvements</td>
</tr>
<tr>
<td><strong>Financial Issues</strong></td>
</tr>
<tr>
<td>Long-term debt to total assets</td>
</tr>
<tr>
<td>Total assets trends</td>
</tr>
<tr>
<td>Cashflow from operations and total liabilities</td>
</tr>
<tr>
<td>Payments or loans in default</td>
</tr>
<tr>
<td>Equity positions and plans to sell</td>
</tr>
<tr>
<td>Percentage reliance on loans and credit agreements</td>
</tr>
<tr>
<td>Employee reduction</td>
</tr>
</tbody>
</table>

Source: AMR Research, 2008
Are you Building Collaborative Relationships or Implementing Collaborative Practices?

Collaborative Relationships
• Relationship and process driven
• Continuous improvement for joint value creation
• Performance-driven business networks

Enablers:
- Value driven business strategy
- Performance-based Logistics (A&D)
- Jointly executed kaizen events
- Joint ventures
- Network redesign

Collaborative Practices
• Individual role driven
• IT project centric
• Silo metrics

Enablers:
- Commerce Networks/Integration Hubs
- CPFR
- VMI programs
- Supplier performance management
- EDI, B2B and Portals
Case study 1: Supplier Segmentation

1. **Strategic positioning**
   - **Supplier market complexity**
     - High
     - Low
   - **Bottleneck**
     - Non critical
     - Leverage
   - **Business Impact**
     - Low
     - High

2. **Scope positioning**
   - **Market offer**
     - Regional
     - Local
   - **Divisional scope**
     - 1 division
     - >1 division

3. **Relationship attractiveness**
   - **Value to Company**
     - Low
     - High
   - **Value to Supplier**
     - Low
     - High

Integration of strategic, scope, and relationship attractiveness leads to the classification of suppliers:

- **Integrated suppliers**
- **Collaborative suppliers**
- **Transactional suppliers**
A&D Case Study: Supplier Segmentation

- Supplier Performance Management (scorecards and trend tool)
- Supplier Manufacturing Capabilities (Design for Supply)
- Strategic Performance Measurement Teams (SPMT’s)
- Supplier Surveillance (early detection of defects)

Managed at a group level

Product cost

Major Subsystems

Managed Parts

Commodities

Supplier performance risk

Aligned metrics (tied to executive level metrics)
Agenda

• Supplier relationship and risk management
• Managing commodities
• Customer profitability through cost to serve
• Agility - become more efficient, scalable and responsive
• Product portfolio management
Beyond the scope of the Commodity Manager....

Six factors to consider:

1. Build demand-driven multi-tier supply management capabilities
2. Consolidate suppliers and get a handle on master data
3. Improve cost analysis capabilities to redefine the value network
4. Get good at contract management
5. Break down those internal silo’s and get aligned
6. Design for supply and postponement
Agenda

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Cost to Serve Practices are Evolving

Cost to Deliver

3% of Supply Chains Make Decisions Based on Cost to Serve

Cost to Serve

20% of Supply Chains Make Decisions on Total Supply Chain Costs

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Definition

Cost-to-serve analysis calculates the profitability of products, customers and routes to market - and to give a fact-based focus for decision making -- on service mix and operational changes for each customer.
Data used in analysis

Q. What data do you use as part of your cost-to-serve analysis?

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>TOTAL</th>
<th>Consumer electronics</th>
<th>CPG</th>
<th>Other mfg</th>
<th>Wholesale/Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation costs</td>
<td>73%</td>
<td>62%</td>
<td>76%</td>
<td>76%</td>
<td>72%</td>
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<tr>
<td>Inventory handling costs</td>
<td>69%</td>
<td>57%</td>
<td>68%</td>
<td>80%</td>
<td>62%</td>
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<tr>
<td>Order quantities and frequencies</td>
<td>68%</td>
<td>67%</td>
<td>74%</td>
<td>66%</td>
<td>62%</td>
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<tr>
<td>Inventory carrying costs</td>
<td>67%</td>
<td>71%</td>
<td>60%</td>
<td>76%</td>
<td>62%</td>
</tr>
<tr>
<td>Warehouse management costs</td>
<td>62%</td>
<td>48%</td>
<td>62%</td>
<td>62%</td>
<td>72%</td>
</tr>
<tr>
<td>Raw materials costs</td>
<td>61%</td>
<td>52%</td>
<td>58%</td>
<td>74%</td>
<td>48%</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>60%</td>
<td>48%</td>
<td>58%</td>
<td>64%</td>
<td>66%</td>
</tr>
<tr>
<td>Customer service costs</td>
<td>58%</td>
<td>62%</td>
<td>60%</td>
<td>54%</td>
<td>59%</td>
</tr>
<tr>
<td>Order management costs</td>
<td>54%</td>
<td>57%</td>
<td>60%</td>
<td>58%</td>
<td>52%</td>
</tr>
<tr>
<td>Manufacturing conversion costs</td>
<td>52%</td>
<td>57%</td>
<td>50%</td>
<td>72%</td>
<td>17%</td>
</tr>
<tr>
<td>Product mix costs</td>
<td>49%</td>
<td>33%</td>
<td>58%</td>
<td>50%</td>
<td>45%</td>
</tr>
<tr>
<td>Returns costs</td>
<td>47%</td>
<td>43%</td>
<td>50%</td>
<td>44%</td>
<td>52%</td>
</tr>
<tr>
<td>Damage costs</td>
<td>37%</td>
<td>24%</td>
<td>48%</td>
<td>26%</td>
<td>48%</td>
</tr>
<tr>
<td>Special requests costs</td>
<td>37%</td>
<td>33%</td>
<td>36%</td>
<td>42%</td>
<td>34%</td>
</tr>
<tr>
<td>Energy costs</td>
<td>33%</td>
<td>24%</td>
<td>36%</td>
<td>36%</td>
<td>28%</td>
</tr>
<tr>
<td>A/R processing costs</td>
<td>32%</td>
<td>43%</td>
<td>28%</td>
<td>30%</td>
<td>34%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>150</td>
<td>21</td>
<td>50</td>
<td>50</td>
<td>29</td>
</tr>
</tbody>
</table>

Sample Size = 150 companies who engage in cost-to-serve analysis
Challenges behind harmonizing data: TOP CHALLENGE

Q. What challenges do you face when collecting and harmonizing data for cost-to-serve analysis?

Q. Which do you consider your top challenge?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>TOTAL</th>
<th>Consumer electronics</th>
<th>CPG</th>
<th>Other mfg</th>
<th>Wholesale/Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data harmonization and cleansing</td>
<td>25%</td>
<td>29%</td>
<td>30%</td>
<td>24%</td>
<td>17%</td>
</tr>
<tr>
<td>Understanding how to use the data</td>
<td>20%</td>
<td>5%</td>
<td>22%</td>
<td>28%</td>
<td>14%</td>
</tr>
<tr>
<td>Internal leadership</td>
<td>15%</td>
<td>10%</td>
<td>8%</td>
<td>16%</td>
<td>28%</td>
</tr>
<tr>
<td>Data maintenance</td>
<td>13%</td>
<td>29%</td>
<td>10%</td>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>Downstream partner collaboration</td>
<td>11%</td>
<td>19%</td>
<td>10%</td>
<td>12%</td>
<td>3%</td>
</tr>
<tr>
<td>Data loading and parsing</td>
<td>8%</td>
<td>5%</td>
<td>6%</td>
<td>8%</td>
<td>14%</td>
</tr>
<tr>
<td>Data storage</td>
<td>5%</td>
<td>0%</td>
<td>12%</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>5%</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Total =</td>
<td>150</td>
<td>21</td>
<td>50</td>
<td>50</td>
<td>29</td>
</tr>
</tbody>
</table>

Sample Size = 150 companies who engage in cost-to-serve analysis
How does cost-to-serve analysis help?

• Identify cost savings based on activity based analysis
• Prioritize areas for process improvements
• Develop pricing and estimating models based on true costs
• Helps define strategies for profitable and unprofitable customer segments
• Support sales negotiation
• Provide actionable information to help product management with product strategies
Agenda

• Supplier relationship and risk management
• Managing commodities
• Customer profitability through cost to serve
• Agility - become more efficient, scalable and responsive
• Product portfolio management
Organizations need to be **BALANCED**. To get balance....

7 Demand-Shaping Levers

- Marketing programs
- New product introductions
- Promotions
- Trade deals
- Sales incentives
- Price management
- Supply shaping/run out strategies

7 Levers of Agility

- Postponement/late-stage differentiation
- Drive transparency through VMI and SMI
- Design for supply and reuse
- Logistics policies
- Adaptive networks
- Flexible manufacturing strategies
Case Study: How many Supply Chains do you have?

![Supply Chain Diagram]

- **Responsiveness**
  - High Demand Predictability
  - High Volume
  - Short Lifecycle
  - Commoditized Technology

- **Efficiency**
  - High Demand Predictability
  - Low Volume
  - Short Lifecycle
  - Specialized Technology

- **Agility**
  - Low Demand Predictability
  - High Volume
  - Long Lifecycle
  - Commoditized Technology

- **Responsiveness**
  - Low Demand Predictability
  - Low Volume
  - Long Lifecycle
  - Specialized Technology

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Tactics and techniques differ by strategy

<table>
<thead>
<tr>
<th>Responsiveness</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Low levels of demand shaping</td>
<td>• High levels of demand shaping</td>
</tr>
<tr>
<td>• Pull-based VMI &amp; SMI</td>
<td>• Lean production techniques</td>
</tr>
<tr>
<td>• Use of downstream data</td>
<td>• Use of third-parties for Manufacturing</td>
</tr>
<tr>
<td>• Postponement</td>
<td>• Direct plant shipments</td>
</tr>
<tr>
<td>• Pooled inventories</td>
<td></td>
</tr>
<tr>
<td>• Flexible transportation networks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agility</th>
<th>Responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Flexible manufacturing work systems</td>
<td>• Opportunistic demand shaping</td>
</tr>
<tr>
<td>• Design for supply</td>
<td>• Stochastic optimization and inventory simulation</td>
</tr>
<tr>
<td>• Design networks</td>
<td>• Daily calculations of inventory levels</td>
</tr>
<tr>
<td>• Pooled inventories</td>
<td></td>
</tr>
</tbody>
</table>

Responsiveness

- Low levels of demand shaping
- Pull-based VMI & SMI
- Use of downstream data
- Postponement
- Pooled inventories
- Flexible transportation networks

Efficiency

- High levels of demand shaping
- Lean production techniques
- Use of third-parties for Manufacturing
- Direct plant shipments

Agility

- Flexible manufacturing work systems
- Design for supply
- Design networks
- Pooled inventories

Responsiveness

- Opportunistic demand shaping
- Stochastic optimization and inventory simulation
- Daily calculations of inventory levels
Responsive
The ability to respond to unforeseen changes in market demand (+/- 20%) for existing products

Efficient
The degree to which a system can minimize total delivered cost and waste

Agile
The ability to adapt to changing market requirements related to commercializing new products and technologies

Differentiate on Availability
Differentiate on Total Landed Cost
Differentiate on Adaptability
Agenda

• Supplier relationship and risk management
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Item Proliferation

86% of SKUs

46% of Sales Revenue

Replenishment Control Frequency = Daily
Forecast Error and Item Complexity

Source: AMR Benchmark Analytix, CPG
Perfect Order and Item Complexity

Source: AMR Benchmark Analytix, CPG
Complexity

- SKU rationalization
  - Need to rationalize product attributes against customer attributes

- Differentiate between good and bad complexity

- Initiate a process:
  - Product portfolio owner
  - Review and rationalization
  - Ensure trade’s ability to execute

- End of life/product phase out planning

- Include this on your S&OP agenda
Wrap Up & Questions

- Supplier relationship and risk management has become a strategic priority.
- Think about how you manage commodities in an economy with extreme price volatility.
- In the desperate pursuit of revenue, maintain customer profitability by controlling cost to serve.
- While reducing capacity, restructure your value chain to be more efficient, scalable and responsive to uncertain demand.
- Get the most for your scarce R&D dollars by tightening your product portfolio management and stage gate process.

Bottom Line: Companies change during a recession. Will the changes you make just help you survive or will you emerge stronger than before?