Latest Developments in Supply Chain and Logistics

The Changing Face of the Logistics Manager

October 2007
Who We Are

- Supply Chain Research
- Supply Market Forecasts
- Supply Chain Consulting
Agenda

- Sourcing – where it starts
- Transport and logistics constraints
- Supply chain management imperatives
- Skills requirements
- Discussion
Sourcing – where it starts
Extended supply chain visibility, management

- From the supplier’s supplier...
  - Collaborative forecasting
  - VMI/auto-replenishment
- To the customer’s customer...
  - Postponement
  - Direct ship
- Transparency between levels
  - Visibility
  - CRM-SRM linkage
- Custom supply chains
  - End-to-end, worldwide, segmented
  - Adaptive, sense-and-respond
  - Learning organization
Asian External Growth

Exports from Selected Low-Cost Countries

- China: 18.6% CAGR
- Japan: 6-7% CAGR
- ASEAN: 11.8% CAGR

Transport and logistics constraints
U.S. Bottlenecks: Long-Term View

Congestion Points, 2020, with Selected Remediation Measures

- Demand:
  - Truck +58%
  - Rail +47%
  - Water +14%
  - Air +182%

- Ports: 4,300 TEU/Acre/Year throughp ut (vs. 10,000+)

- Intermodal Driver Shortage


- Ports: 3,300 TEU/Acre/Year (vs. 10,000+)

- "CREATE"

Source: Cambridge Systematics/US DOT, Containerisation International
Secondary Ports & Modes

U.S.
- Northern Pacific
- All-water via Panama Canal
- Trans-shipment via “feeder” port

Asia
- Shanghai vs. Hong Kong
- Inland vs. “waterfront”

Inland Ports on the Yangtse River
Fuel prices and surcharges

Weighted Average World Oil Spot Prices 1989-2007
Budgets are off; variance is increasing

- Expense: 50% are over-budget, 62% worsening
- Capital: 60% are over-budget, 73% worsening
The planning method makes a difference

Effectiveness, by Method

- Partner with core suppliers
- Diversify supplier base
- Buy in advance directly
- Apply confidence levels
- Follow consultant recommendations
- Reserve capacity with key suppliers
- Simulate optimal strategy
- Buy options or futures
- Use a flexible budget
- Use a panel of experts

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SCM Imperatives
Imperatives for 2007

1. Leverage Asian sourcing opportunities
2. Actively manage fuel expenditures
3. Make “e-freight” a reality
4. Decide to lead (or follow) in RFID
5. Stay lean despite delays and congestion
Leverage Asian sourcing

- 18% savings on largest categories
- 70% increase in sourcing by 2011 for some
- China twice as attractive as other countries

**Country Attractiveness as a Sourcing Platform in 2011**

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent of Respondents</th>
<th>Investment % of Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>66%</td>
<td>0.1x</td>
</tr>
<tr>
<td>India</td>
<td>20%</td>
<td>1-2x</td>
</tr>
<tr>
<td>Vietnam</td>
<td>11%</td>
<td>3-5x</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0%</td>
<td>6-10x</td>
</tr>
<tr>
<td>Korea</td>
<td>4%</td>
<td>&gt;10x</td>
</tr>
<tr>
<td>Mexico</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Boston Logistic
Actively manage fuel expenditures

• 10-100% savings from actively managing fuel spend


Weighted Average World Oil Spot Prices 1989-2006

Source: US Energy Information Administration

Percent Change from Baseline Cost
Source: Boston Logistic
## Make “e-freight” a reality

<table>
<thead>
<tr>
<th>Supply Chain Trends</th>
<th>Logistics IT Requirements</th>
<th>Applications Checklist</th>
</tr>
</thead>
</table>
| ▪ Customer Interaction  
  ▪ Value-Added Services  
  ▪ Global Networks  
  ▪ Supply Chain Security  
  ▪ Data Exchange  
  ▪ Wireless Transmission | ▪ Driver Communication  
  ▪ Vehicle Tracking  
  ▪ Telecom Network Infrastructure  
  ▪ Call Center/Customer Support | ▪ Communications Equipment  
  ▪ VPN Security  
  ▪ VOIP  
  ▪ Click to talk  
  ▪ Mobile Solutions  
  ▪ Call Center Management  
  ▪ Network Management |
Decide to lead or follow in RFID

- ROI: -38% to 107% in 161 case studies
- 153% industry growth by 2010
- Fertile ground for some applications

### Range of Potential RFID Applications and Benefits

<table>
<thead>
<tr>
<th>Application</th>
<th>Benefit</th>
<th>Financial Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track Equipment</td>
<td>Utilization ↑</td>
<td>ROA ↑</td>
</tr>
<tr>
<td>Track Inventory</td>
<td>Turns ↑</td>
<td>Working Capital ↑</td>
</tr>
<tr>
<td>Deploy Labor</td>
<td>Productivity ↑</td>
<td>Profits ↑</td>
</tr>
<tr>
<td>Track Production</td>
<td>Cycle time ↓</td>
<td>Revenues ↑</td>
</tr>
<tr>
<td>Track Devices</td>
<td>Availability ↑</td>
<td>Performance ↑</td>
</tr>
<tr>
<td>Monitor Access</td>
<td>Violations ↓</td>
<td>Claims/damages ↓</td>
</tr>
<tr>
<td>Speed X-Actions</td>
<td>Throughput ↑</td>
<td>Revenues ↑</td>
</tr>
</tbody>
</table>

Source: Boston Logistic
Stay lean despite delays and congestion

- Congestion accounts for 34% of recent increase in inventories
- Postponement, dynamic routing strategies

**Logistics Cost as a Percent of GDP**

Source: Rosalyn Wilson/CSCMP State of Logistics Report, Boston Logistic
Skills Requirements
Acquiring New Skill Sets

“What are the greatest challenges to achieving maximum efficiency within your company’s purchasing practices?”

Applicants must possess...
- Leadership
- Creativity
- Aggressiveness
- Financial acumen
- Problem-solving skills
- Drive for results

Need not apply:
- Lifetime purchasing career
- Individual contributors
- Win-lose negotiators

Source: SAP and Economist Intelligence Unit, April 2005
Thank you!

David Jacoby: djacoby@bostonlogistic.com

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- **Research** that help investors and policy makers quantify the benefit of emerging technologies and decide whether or not to invest in them
- **Forecasts** that help purchasing managers decide how, where, and when to buy critical externally-purchased materials and services
- **Consulting** that supports high-stakes decisions such as acquisitions, outsourcing, off-shoring, and make-or-buy

**Industries Served:**

- Discrete Manufacturing: Machinery, Equipment, Vehicles, Parts, Mechanical and Electrical Devices
- Transportation: Railroads, Ocean Shipping Lines, Airlines, Trucking Companies, Package Delivery, Intermodal
- Logistics: Dedicated and Third Party Logistics, Ports, Stevedoring, Storage, Material Handling, Distribution, Maintenance, Retail