ENHANCING SUPPLY CHAIN COMPETITIVENESS – LEARNING FROM OTHER INDUSTRIES

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What best-in-class looks like … Video
Supply Chain competitiveness journey

Key Question

1. Defining Supply Chain Priorities
   - What are SC priorities relative to business priorities?

2. Benchmarking Supply Chain Performance
   - How does the Supply Chain perform vs. best-in-class in the same or different industry?

3. Enhancing Supply Chain Performance
   - How have selected players x-industry made their Supply Chains competitive?

Competitive Supply Chain

- Sustainable competitive advantage arising from Supply Chain
- Continuous improvement

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Supply Chain priorities

Defining and prioritizing performance objectives is the first step to enhancing Supply Chain competitiveness

- How much environmental impact does the Supply Chain generate?
- Safety (Security Standards)
- How safe and closely monitored are current security measures?
- What percentage of SKUs is arriving on time and in good condition?
- Reliability (Service levels)
- How responsive is the Supply Chain to changes?
- Cost Effectiveness (Direct + Indirect)
- How expensive is the Supply Chain?
- Sustainability (CO₂ Efficiency)
- How responsive is Supply Chain to changes?
- Adaptable (Flexibility)
Baselining the direct and indirect costs of your Supply Chain enables transparency of the current Supply Chain setup prior to any optimization.

### Distribution cost per year, USD mn

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Base case</th>
<th>Scenario A</th>
<th>Scenario B</th>
<th>Scenario C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>10,5</td>
<td>9,5</td>
<td>11,5</td>
<td>8,7</td>
</tr>
<tr>
<td>Warehousing</td>
<td>2,5</td>
<td>2,5</td>
<td>3,5</td>
<td>2,4</td>
</tr>
<tr>
<td>Packaging</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
</tr>
<tr>
<td>Direct</td>
<td>13,0</td>
<td>12,0</td>
<td>15</td>
<td>11,1</td>
</tr>
<tr>
<td>Inventory</td>
<td>2,3</td>
<td>1,7</td>
<td>2,8</td>
<td>2,0</td>
</tr>
<tr>
<td>Obsolescence</td>
<td>3,1</td>
<td>3,1</td>
<td>2,4</td>
<td>1,9</td>
</tr>
<tr>
<td>Lost sales</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>Indirect</td>
<td>5,7</td>
<td>5,0</td>
<td>5,4</td>
<td>4,1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,7</strong></td>
<td><strong>17,0</strong></td>
<td><strong>20,4</strong></td>
<td><strong>15,2</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ø cost per unit [USD]</th>
<th>Base case</th>
<th>Scenario A</th>
<th>Scenario B</th>
<th>Scenario C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.69</strong></td>
<td><strong>2.50</strong></td>
<td><strong>2.75</strong></td>
<td><strong>2.08</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lead time to sales country [days]</th>
<th>Base case</th>
<th>Scenario A</th>
<th>Scenario B</th>
<th>Scenario C</th>
</tr>
</thead>
<tbody>
<tr>
<td>7–10</td>
<td>5–12</td>
<td>7–15</td>
<td>3–11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO₂ [gm/ton-km]²</th>
<th>Base case</th>
<th>Scenario A</th>
<th>Scenario B</th>
<th>Scenario C</th>
</tr>
</thead>
<tbody>
<tr>
<td>470</td>
<td>425</td>
<td>515</td>
<td>390</td>
<td></td>
</tr>
</tbody>
</table>
Approach to benchmarking

Defining the purpose and key metrics for benchmarking is key to effectively using benchmarking results

Supply Chain data for other geographies within the same organization

Industry reports for Supply Chains in own sector or best-in-class players from other sectors

External databases such as Finlistics for high-level financial metrics, APQC, Logistics Bureau, Davis Database, Armstrong Associates

Consultation through experts to validate industry best practices, gather intelligence on best in class
Benchmarking downstream vs. best-in-class FMCG (Emerging market)

FMCGs have high visibility, less volatile orders, high OTIF, high rail use and high primary transport costs

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Strategic choice</th>
<th>Driving logic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing Plants</td>
<td>National</td>
<td>• Proximity to suppliers/import locations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Scale and Tax benefits</td>
</tr>
<tr>
<td>RDCs/DCs setup</td>
<td>Regional</td>
<td>• Tax benefits</td>
</tr>
<tr>
<td>Distribution Structure</td>
<td>Large &amp; Few</td>
<td>• Customer reach/penetration</td>
</tr>
<tr>
<td>Transport Mode</td>
<td>Road</td>
<td>• Connectivity of plants/DCs</td>
</tr>
<tr>
<td>OTIF</td>
<td></td>
<td>• Costs</td>
</tr>
<tr>
<td>Service Levels</td>
<td>Same Day</td>
<td>• Customer promise</td>
</tr>
<tr>
<td>Logistics Costs Skew</td>
<td>Secondary</td>
<td>• Proximity to demand points</td>
</tr>
<tr>
<td>Order Schedule</td>
<td>Adhoc</td>
<td>• Predictability of demand</td>
</tr>
<tr>
<td>End-to-end goods' visibility</td>
<td>Low</td>
<td>• Product availability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Customer reach/promise</td>
</tr>
</tbody>
</table>

NOT PRODUCT-SPECIFIC

Energy Client

Energy Competitor

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Supply Chain levers

Several levers exist to drive Supply Chain competitiveness; all use data extensively.
Supply Chain levers: Supply Chain strategy

Supply Chains are increasingly seen as key input into business strategy

Rarely has a major shift in a company's strategy relied so heavily on the Supply Chain. … In effect, the Supply Chain is becoming a customer-facing unit.

Supply Chain has evolved in its relationship to corporate strategy.


Alcoa’s strategic transformation…Procurement and Supply Chain are an important area for Alcoa’s survival

– News articles, 2012

Nestle’s 5–6% organic growth target, the long-term strategic transformation into a world class…All would have come to naught and been impossible if Nestlé hadn’t also designed and implemented a completely new “logistic”.

– Peter Brabeck-Letmathe, Chairman, Nestle SA, 2014

Hershey announces global Supply Chain transformation…savings will be available for investment in strategic growth initiatives

– Reuters, 2007

Companies are turning to their Supply Chains to start growing again – maintaining the disciplined cost structure while adding the flexibility they need to write the next chapter.

– Deloitte

As we seek to transform into a leading company, reliability in Supply Chain performance is a key success factor in our strategy…

– CEO, EMEALA, Fresenius Medical Care

DHL
Supply Chain levers: Supply Chain strategy and design

...for both existing and new business

SC strategy supporting existing business ...

- International mobile devices manufacturer is reviewing business strategy driven by difficult market conditions

  Aggressive 1bn cost reduction in 5 years

  Regain Market Leadership

  Manufacturing footprint review; facility closure

  Product portfolio review to meet market needs

- Key Supply Chain levers:
  - Regional hub set up and inventory consolidation
  - Finished goods Supply Chain segmentation
  - Air-to-sea mode switch for low value products
  - Routing optimization on key trade lanes
  - Volumetric weight reduction for I2M

... and entry into new markets

- Legacy SC ill-equipped to meet growing African demand; all flows into Africa shipped via EU – too slow, too expensive

- Customer business units operating independently, no leverage of synergies

  As-is SC

  EU

  D XB

  AP

  Z A

  EU Cluster

  11% Cheaper

  EUR 8mn savings by:
  - Going more direct
  - Using more OFR

  27% faster

  Also reducing in-transit inventory

  19% greener

  Reduced CO₂ emissions

Key Supply Chain levers:

- Regional hub set up and inventory consolidation
- Finished goods Supply Chain segmentation
- Air-to-sea mode switch for low value products
- Routing optimization on key trade lanes
- Volumetric weight reduction for I2M
Supply Chain levers: Network optimization

Changes in network setup resulted in identified savings of 12% and significant lead time reduction for Engineering & Manufacturing, Tech, Healthcare MNCs in APAC

**Situation**

“RDC Setup Evaluation”

As-is: RDC in SG, local DC’s all over APAC

To-Be: RDC in CN, SG and local DC’s

**Solution**

Key Changes vs. As-is

- Setup of an additional RDC to better serve the North Asian customer demand
- Ramp down of the RDC SG and country DCs

**Impact**

- Removal of non-value adding trade lanes between Asia and Europe
- Closure of Australian and South East Asian cross-docks

- 12% Less transport costs
- 45% less warehousing costs
- 10% lead time reduction

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Supply Chain levers:
Customs – Free trade & warehousing zones (FTWZ)

FTWZ enabled Engineering & Manufacturing MNC to re-export products and benefit from value-added services with reduced lead times and costs.

Value-added Services

- Compliance and regulations adherence
- Duty Deferment
- Cargo Security
- Quality Control
- Hassle-free Re-exports
- Faster clearance

FTWZ:

DHL

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Inventory optimization helped FMCG company identify potential working capital reduction of 25%

**The Challenge**
- Optimize inventory, reduce working capital and inventory holding cost
- Current network: multi-echelon
- Rule-of-thumb approach

**The Approach**
- Assessment of current inventory model
- Determining optimum inventory targets at each location
- Supply Chain lever identification and quantification

**Impact**
- Working capital reduction:
  - 14% considering no changes in Supply Chain
  - 25% considering implementation of identified changes

Selected suggested changes:
- Weekly replenishment of raw materials from 1 supplier
- Reduce lead time by conducting QA checks at finished goods w/h
- Weekly vs. monthly production of selected SKUs

**Reduction in lost sales and lower w/h costs**
Rollout to 5 other countries in Asia
E-commerce is growing with leading retailers starting to shift to multi-channel and omni-channel setups; inventory visibility is key.

Supply Chain levers:
Distributed inventory management & customer fulfillment

<table>
<thead>
<tr>
<th>Single-Channel</th>
<th>Multi-Channel</th>
<th>Omni-Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick &amp; Mortar</td>
<td>Store + Online</td>
<td>Anything Anywhere</td>
</tr>
</tbody>
</table>

Customer Interaction:
- Single touch point
- Store centric model
- Multiple touch points
- Siloed interaction
- Multiple touch points
- Seamless experience

Profitability | SC Design | Customer Experience | Returns | Store Network

Inventory Management
Supply Chain levers: Asset pooling – Co-loading

Co-loading identified 19% savings when consolidating several isolated Supply Chains of a Food and Beverage company in Mexico

The challenge

- Multiple individual distribution networks
- Networks operate independently
- Redundancy and inefficiency

Solution/Impact

- TR-2 benefit by co-loading different products destined for the same customer or region
- Utilizing only pre-existing facilities
- Reduced facilities through identified redundancies

Baseline | WH & DC | TR-1 | TR-2 | Optimal
--- | --- | --- | --- | ---
100% | 16% | 1% | 3% | 81%
Supply Chain Levers: Dynamic optimization in transport

Conversion of shipments between AFR and Express for shipments for pre-defined weight brackets to selected destinations

<table>
<thead>
<tr>
<th>Transport speed/Service Level</th>
<th>Weight/Consolidation Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same day</td>
<td>1kg</td>
</tr>
<tr>
<td>Day-definite</td>
<td>30–75kg</td>
</tr>
<tr>
<td>Time-definite</td>
<td>1,500kg</td>
</tr>
<tr>
<td>Air Cargo forwarding</td>
<td>8,000kg</td>
</tr>
</tbody>
</table>

Export documentation unchanged

Communication and pre-alerts via Control Tower

Invoicing process unchanged

Area where shipments are viewed for Best fit and are “Dynamically Routed”
Supply Chain levers: Lead logistics provider and governance

Cost savings in domestic supply chain for leading players in Automotive and Technology through governance changes

**The challenge**
- Logistics cost significantly higher than industry benchmarks
- Lack of accountability and KPIs in logistics organization
- Poor visibility of supply chain costs

**The solution**
- Identify supply chain priorities
- Cost baselining, benchmarking, improvement levers identification
- LLP concept, scope, and governance model definition

**The Impact**
- Overall logistics cost reduction: 13%
- Lead Logistics Provider to take on domestic ex-factory logistics operations: 1
- Total contracted logistics spend with five-year gain share model: EUR 90m

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Looking ahead...

Rise of “new” consumer (Need for flexibility, simplicity, individualization and 24/7 connectivity)

New technologies (3D Printing, augmented reality)

Internet of Things (26bn devices by 2020)

Urbanization (China will add 300 mn people into its cities in 20 years)

De-stressing the supply chain (“green” services and products, slow steaming)

Rise of convenience logistics services (time window, same day, cargo drones)

Big Data increasing supply chain collaboration; anticipatory logistics

Automation & Robotics in warehousing fulfillment, transshipping

Nearshoring due to increase in fuel cost and diminishing labor cost advantages

Big Data

Automation & Robotics

Rise of convenience

New technologies

Internet of Things

Urbanization

De-stressing the supply chain

Looking a head…