A competitive distribution network strategy

Breaking political & operational barriers

April 22, 2010
Dusseldorf, Germany
Agenda

• Supply chains costs
  • General trends
  • Chemicals benchmarked

• Recommended supply chains strategies
  • Consolidation of distribution structures
  • Logistics Collaboration

• Summary & conclusions
Supply chains costs
Trends

Logistics Costs / CoGS (%)

Source: ELA 2008
1. **Consolidate in regional network structures**
   - Regionalization of supply chains footprint
   - Declined number of storage locations

2. **Control net working capital**
   - Active management of inventories

3. **Enhance flexibility**
   - Reaction capability to fluctuating demand
   - Replenishment on customer specific basis

4. **Apply stringent risk management**
   - Mitigate payment & credit risks

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**Supply chains costs**

Recommended supply chains strategies
Distribution network consolidation & regionalization

April 22, 2010
Dusseldorf, Germany
Distribution network consolidation & regionalization
The supply chain trade-off

- Flexibility
- Reliability
- Responsiveness

Operational Costs
- transport
- warehousing
- handling

Supply Chains Asset efficiency
Distribution network consolidation & regionalization
The supply chain trade-off – transport costs

- Inbound vs. warehouses
- Line haul vs. warehouses
- End customer transport vs. warehouses

<table>
<thead>
<tr>
<th>No. of warehouses</th>
<th>Total costs – inbound transport</th>
<th>Total costs – line haul transport</th>
<th>Total costs – customer transport</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Inbound vs. warehouses</td>
<td>Line haul vs. warehouses</td>
<td>End customer transport vs. warehouses</td>
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Total costs increase as the number of warehouses increases.
Distribution network consolidation & regionalization
The supply chain trade-off – warehousing & handling costs

<table>
<thead>
<tr>
<th>No. of warehouses</th>
<th>Building vs. warehouses</th>
<th>Total costs – warehouse building</th>
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<tr>
<th>No. of warehouses</th>
<th>Handling vs. warehouses</th>
<th>Total costs – handling</th>
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Distribution network consolidation & regionalization
The supply chain trade-off – supply chains assets (inventory)

Inventory vs. warehouses

Total costs – inventory

No. of warehouses
Distribution network consolidation & regionalization
The supply chain trade-off – all operational costs
Distribution network consolidation & regionalization
Distribution strategy – determining factors

- Low value density (Agriculture commodities)
- High value density (FMCG / retail)
- Service Focus
- Price focus

- Market requirements
- Product characteristics

- Paper
- Apparel
- Specialty chemicals
- Bulk chemicals
- Metals
- FMCG / retail
- Consumer electronics
- Pharmaceuticals
- Spare parts
- Automotive

- Specialties:
  - Pharmaceuticals
  - Specialty chemicals
  - Consumer electronics
  - High-tech
  - Bulk chemicals
  - Metals
  - FMCG / retail
  - Agriculture commodities
  - Apparel
  - Specialty chemicals
  - Pharmaceuticals

- Distribution network consolidation & regionalization
- Distribution strategy – determining factors
Distribution network consolidation & regionalization
Distribution strategy – market requirements & product characteristics

<table>
<thead>
<tr>
<th>Service Focus</th>
<th>market requirements</th>
<th>Price focus</th>
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</thead>
</table>
| **reliable SC** | • regional warehouses in main markets with operational focus on efficiency  
• warehouses stock all products & support short lead-times  
• locations of warehouses also based on transport costs |  
**responsive, flexible SC** | • multiple national warehouses (or air transport) set for local markets  
• warehouse combined with service organization  
• SC costs is not a decision driver, with low ratio of logistics in CoGs  
• focus reliability, responsiveness | **operational efficient SC** | • EDC based on operational efficiency  
• lead-time is not a driver  
• Inbound transport is an important factor  
• Outbound transport optimization through FTL’s, milk-runs |
| **asset efficient SC** | • EDC based on optimization inventory or “virtual” warehouses  
• local satellites with fast-movers and/or local products only  
• locations satellites based on customer presence |  |

Low value density | product characteristics | High value density
Distribution network consolidation & regionalization
Distribution strategy – viable solutions

- **Service Focus**
  - **reliable SC**
  - **responsive, flexible SC**

- **Market Requirements**
  - **operational efficient SC**
  - **asset efficient SC**

- **Price Focus**
  - **Low value density**
  - **High value density**

- **Product Characteristics**
Warehouse & transport collaboration
Stages of capability

Integration of business functions

- across supply chains
- within one supply chain
- between business functions
- within business function

stages of operational capability

alignment    optimization    integration    alliance networks
Integration of business functions

Warehouse & transport collaboration
Stages of capability - Stage 1: functional focus

- APS
- work flow management

- Discrete sc processes & documented data flows
- Resources managed at department level

alignment optimization integration alliance networks

across supply chains
within one supply chain
between business functions
within business

functional focus
Warehouse & transport collaboration
Stages of capability - Stage 2: internal integration

- Distribution regionalization
- Matrix organizations / SCO
- S&OP
- Global sourcing

- Company wide process & continuously measured data
- Resources managed at both functional and cross-functional level

Integration of business functions
- across supply chains
- within one supply chain
- between business functions
- within business

internal integration

stages of operational capability
- alignment
- optimization
- integration
- alliance networks

functional focus
Integration of business functions

Stages of capability - Stage 3: external integration

- Strategic partners throughout the global supply chains to collaborate to:
  - Joint business objective & action plans
  - Enforce common process & data sharing
  - Define, monitor and react to performance metrics

- EDI, VMI, CRP, ECR, ..
- Single supply chains

Warehouse & transport collaboration

Stages of capability - Stage 3: external integration

Alignment  Optimization  Integration  Alliance networks
Warehouse & transport collaboration

Stages of capability - Stage 4: cross collaboration network

- CPFR
- across multiple supply chains

- Establish a full collaborative supply chains strategy:
  - Aligns participating companies’ business objectives and associated processes
  - Results in real-time planning, decision making and execution of supply chains responses to customer requirements

integration of business functions

stages of operational capability

- alignment
- optimization
- integration
- alliance networks
Warehouse & transport collaboration
Chemicals positioning

- Functional focus
- Internal integration
- External integration
- Cross-network collaboration

Integration of business functions

- Across supply chains
- Within one supply chain
- Between business functions
- Within business

Stages of operational capability

- Alignment
- Optimization
- Integration
- Alliance networks

High-Tech
FMCG

Automotive

Chemicals

Healthcare
Facility sharing

- Share (temperature controlled) storage areas
- Share storage facilities (also for postponement, Value added etc.)

Transport sharing

- Share (temperature controlled) transportation
- Combine direct distribution transport

Knowledge sharing

- Create platforms on logistics approach (e.g. HACCP)
- Share information on food issues per country

Experience sharing

- Select vendors based on experience in FMCG / with validation
- If possible, purchase equipment / systems based on validated status
**Transport pooling**: consists of grouping together flows (order processes, storage, handling, inbound transport, and mainly outbound deliveries) from several manufacturers who have compatible finished goods intended for the same distribution networks, with shared points of departure and receipt.

### Benefits – overview

- Improving delivery frequencies
- Increase reliability through risk sharing
- Economies-of-scale warehouse
- Truck utilization rate improves (costs & environment)
- Reduction of inventory through acceleration of flows throughout the supply chains

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**Customer Service**

**Logistics Costs**

**Working Capital**
Warehouse & transport collaboration
Benefits – example AS-IS

Manufacturer A

Warehouse A

30 pallets

1 delivery / 5 days

Warehouse Customer C

1 delivery / 8 days

Manufacturer B

Warehouse B

14 pallets

30 pallets
Warehouse & transport collaboration
Benefits – example TO-BE

Manufacturer A

Shared Warehouse A & B

26+ pallets

1 delivery / 4 days

Manufacturer B

Warehouse Customer C
Warehouse & transport collaboration
Benefits – business examples cross chain collaboration

Northern France

The Netherlands

The Netherlands
## Stakeholders

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<th>Shippers</th>
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<tr>
<td>• Operational savings</td>
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<td>• Reduction of supply chains assets</td>
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<td>• Committed capacity</td>
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<td>• Risk pooling</td>
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<th>3PLs</th>
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<tr>
<td>• Increased assets utilization</td>
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<td>• Predictable efficiencies</td>
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<th>Customers</th>
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<td>• Improved customer service</td>
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<td>• Visibility in inbound</td>
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<th>Environment</th>
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<td>• Reduced road congestion</td>
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<td>• Optimization of available landplots</td>
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<td>• Reduction of the CO2 footprint</td>
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Summary & conclusions

• If chemicals wants to bring their logistics costs to reach average industry standards on the **short-term** it should focus on..
  
  • .. **consolidation** and regionalization of warehouses  
  • .. operate **multiple, differentiated** supply chains structures

• Chemicals can break the **mid-term** barriers of stabilized logistics cost by ..
  
  • .. external collaboration by **grouping transport flows** (mainly outbound deliveries)  
  • .. developing full **collaborating supply chain planning strategies** with supplier, competitors & clients
MAKING SUPPLY CHAINS YOUR COMPETITIVE ADVANTAGE!
Groenewout is an international, independent consulting company providing integrated value-added advisory and support services across all industry sectors to support our clients in achieving business process and operational improvements within supply chains and logistics.
Supply Chains & Logistics Consulting

**Strategical**
- Feasibility studies
- Warehouse tendering for building, logistics equipment & IT
- Distribution Network Studies
- Global sourcing
- Non Product Related Purchasing (NPR)
- Organizational - & functional design
- Business process (re-)design
- Key Performance Indicators (KPI’s)

**Tactical**
- Warehouse (lay-out) design
- Plant (lay-out) design
- Lean warehousing
- Insourcing / outsourcing warehousing
- Transport tendering
- Service Level Agreements (SLA)
- Insourcing / outsourcing transport
- Benchmarks
- Sales & Operations Planning (S&OP)
- Production planning
- Collaborative Planning, Forecasting & Replenishment

**Operational**
- Loss Prevention & Security (LP&S)
- Facilities electrical, HVAC & temperature engineering
- Location studies & site selections
- IS selection & implementation (WMS/TMS/APS)
- Inventory Mgt.

**Materials Mgt.**
- Physical Distribution
- Supply Chains Mgt.
Our methodology in logistics - & supply chains management

- Data gathering
- Supply Chains Transparency
- Business Requirements

- Benchmark
- 2nd-opinion
- Audit
- Arbitrage
- Training

- Project mgt.
- Tender- & contract mgt.
- Construction (site) mgt.
- Process improvement mgt.
- Transition mgt.
- Change mgt.
- Interim mgt.

- Modeling & Simulation
- CAST-dpm
- WHAT-2-STORE©
- WARE-2-STORE©
- BUILD-2-STORE©
- ABC-2-STORE©
- Automod

- Project mgt.
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