Logistics costs and efficiency

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Summary

- PSA logistics principles: adjust to demand
- Improving processes in order to keep costs down: the lean logistics project
- Supply chain evolutions
- Further cost reductions: 3 possible actions can be taken
Vehicles are ordered every day, and dispatched daily to assembly plants.

Suppliers ship daily (with hourly information) according to parts needed by vehicle order flow.

Planning information and flexibility margins are monthly.

Packages: plastic boxes or returnable containers.

Ex-works transport conditions.

Odette EDI and transport labels.
Order management and flexibility

- **Two goals**:  
  - Customer satisfaction by low delivery times and high diversity  
  - Cost reduction (transport and inventory in the whole supply chain)

- **Logistics compromise**:  
  - High percentage of « build to order »  
  - Adjustable transports and production mix to keep acceptable lead-times

- **Operational result**:  
  - Customer has to wait 5 to 7 weeks, more if there are shortages  
  - Flexibility costs are high (inventories at suppliers, oversized transport and production capacities…)

PSA PEUGEOT CITROËN
In-house optimisation: reception and cross-dock

Transportation once a day

The cross-dock splits the pallets according to the transport label

Result: hourly deliveries to warehouse
Supermarkets as warehouses

4 hours inventory
Efficient pick-up on dollies
Hourly tours to line side
Supermarket layout: boxes and containers
Line side distribution

Boxes, or specific parts presentation
The result

- Small boxes up to 30 per car
- No increase of handling costs
- No increase of transportation costs
- More efficient line side distribution
- All assembly plants equipped by mid-2008

→ But: is that enough?
New challenges

- More diversity (sedan, hatchback, MPV, Station-wagon)
- Widening supplier base – opportunities in eastern Europe
- New vehicles are logistically richer – parts size increasing, ready modules policy
- Quality and environmental objectives call for “zero waste” packages

CONSEQUENCES:
Logistics costs are soaring, even if reliability and lead-times are satisfactory

Citroën C6
Peugeot 207
Grand C4 Picasso
Peugeot Expert
Citroën Jumpy
207 RC
Peugeot 4007 Citroën C-Crosser
Peugeot Boxer
Citroën Jumper
207 CC
Citroën C4 Picasso 5
375 supplier locations are delivering to Trnava

(The Peugeot 207 is built in Paris, Madrid and Trnava)

70% of locations less than 5 m³ a day
New transport needs

Parts size increases: Headlamps up 50% on Peugeot 308

Fully returnable containers with returnable inserts: no more container pooling nor foldable solutions:

→ 70% of transportation volumes is for return of empties.
How can transportation costs decrease?

Transport costs = volume x distance x m².km price

- Simply choose nearby suppliers? (but is this in line with purchasing objectives?)
- Lower the transport capacities to the minimum? (what happens if parts are not delivered?)
- Reduce parts size? (only a few cases possible…)

- Three targets are possible
  - Reduce the change in demand (= lower flexibility)
  - Together with suppliers, work on small flows
  - Move to easier supplier communications
Re-engineering of the order flow

Commercial subsidiaries → Dealers → Filter → Assembly, final check & shipment

Order management

Forecasts

Stock

1 day

Increase delivery via stock
New forecasting system
Monitor product offer

Body- and paint shop
Assembly, final check & shipment

Supplier forecasts and delivery schedule
The expected results

- Seamless forecasts and order system
- Up to 80% of production sold through stock:
  - Planning fills easily the gaps of demand, and is able to streamline the order flow

- Objective: assemble 95% of the cars the right hour as planned 5 days before

- Expected consequences:
  - Daily flexibility less than 15% in transportation volumes for every supplier relation
  - Improvement of the monthly forecasts given to suppliers
Transport costs (average)

- Full load return is 100%
- Shared transport 10 m³ or more is 200%
- Less than 10 m³ via regional cross dock is 400%

The current supply chain has a large amount of small flows: less than 5% of volumes cost 30% and represent 70% of supplier locations.

2 solutions are under study:
- either agree with a re-location of parts within the same supplier,
- or, if impossible, organise weekly pick-ups and warehousing
What about logistics quality?

- PSA has met problems with its logistics procedures
  - Supplier communication is difficult to implement
  - Quantities and timetables not always satisfactory
  - The rate of unsatisfactory deliveries is still over 50%

- Due to problems encountered by suppliers, a significant part of the logistics flows does not meet the demand:
  - Wrong information on transport labels or in messages
  - Inaccurate shipments
  - Pallets that can’t be stacked
  - Costly emergency transports

  … Misunderstandings and faults on both sides
Challenges for Odette?

- PSA logistics uses sophisticated procedures
- Other OEMs use a great variety of solutions

Odette could certainly help PSA (and other volunteers) to offer simpler standards, closer to the physical flow, needing less sophisticated IT to improve logistics quality.

Our target: bring down logistics failures to less than 5%, as monitored by the LKPI follow-up.
Conclusion

- PSA has implemented an optimised lean supply chain, but costs are increasing and quality is difficult to improve

→ Three work items will better the situation
- Master the unnecessary changes in demand by re-engineering the production flow and forecasts
- Study small logistics flows to cut transportation costs
- Work with Odette on next version of supplier communications using simpler business cases
Thank you for your attention!