Urban distribution network of four major grocery retailers in Lithuania

Freight consolidation and transhipment; Business to business (B2B) solutions, cooperation; ICT (e.g. routing, guidance), transport optimisation.

A market dominance (oligopoly) of a few retail supermarkets in Lithuania has led to an optimised urban logistics solution: four chains operate most of the supermarkets across the country, from small to large scale stores, which are located in every town and city. All these supermarkets are serviced from strategically located logistics centres, at which goods are loaded as consolidated shipments onto large vehicles, thus reducing the number of trips made to supply each shop and by using optimised routes. The number of vehicles and trips are reduced, leading to a positive impact on traffic & emissions.

Retailers are benefiting from cost-effective, timely, reliable and efficient supply of their goods.
Due to logistics optimisation, storage costs are reduced as warehouses in each shop are no longer needed, thus retailers can reduce the prices of the goods as competitive advantage against smaller shops, or display more products.
Users benefit from many easily accessible high quality shops that are operated by four large retail operators.
Public benefits arise from reduced traffic and emissions.

Customers of supermarkets demand a wide range of fresh, high quality products within reasonable distance of their residences. Large supermarkets require frequent supply and these refills tend to cause frequent freight deliveries in an urban environment. An increasing demand leads to a larger number of trips that in turn increases pollution, noise and congestion. Therefore a radical logistics operation optimisation is necessary.

Before the introduction of the new centralised logistics system, common practice was that small independent shops received their goods directly from their suppliers or through individual freight operators. Smaller warehouses were used to service several shops. In the 1990s and later on, due to the privatisation of state-owned businesses, four large retailers emerged and still dominate the market, operating a large number of supermarkets in urban areas. Small shops have virtually disappeared from cities and towns, due to the competition from large retailers that are benefiting from economies of scale. Now, the four retailers run very similar business models, with the following supply chain principles: the retailers have their supermarkets located in almost every district of towns; supermarkets are served by own account logistics subsidiaries, distributing goods in consolidated shipments from central warehouses using large trucks; optimised routes are calculated for each truck, thus the supply chains are very efficient, the load factor is high and the number of trips is minimised.

Benefits:

- Retailers are benefiting from cost-effective, timely, reliable and efficient supply of their goods.
- Due to logistics optimisation, storage costs are reduced as warehouses in each shop are no longer needed, thus retailers can reduce the prices of the goods as competitive advantage against smaller shops, or display more products.
- Users benefit from many easily accessible high quality shops that are operated by four large retail operators.
- Public benefits arise from reduced traffic and emissions.

Success Factors:

- Dominance of few large retailers and freight operators was the result of mass-privatization of state-owned shops in the years 1990s.
- Economies of scale were achieved as large retailers optimised their logistics activities, and negotiated favourable prices from manufacturers. Small companies were disappearing, due to a limited access to capital and to a weaker negotiating power with suppliers. Small independent shops have almost disappeared from the market.

Supported Strategic Targets:

- Increased efficiency / productivity of logistics processes
- Increased competitiveness and company profitability
- Increased quality and accessibility of goods for end users
- Greater (optimised) utilisation of infrastructure
Optimisation of delivery times and logistics costs was achieved with the establishment of an urban delivery scheme by large retail logistics operators. In this schemes, a large number of supermarkets in urban areas are resupplied frequently from favourably located central warehouses (picture below right). Consolidated shipments of requested goods are dispatched and delivered to each supermarket by large trucks on optimised routes.

The distribution warehouses, logistics operators and supermarkets are privately owned, and belonging directly or indirectly to one of the four main grocery retailers.

As an economic solution, the case is transferable to any city or country. However unlike in Lithuania, many European towns and cities, especially in their central areas, have adopted restrictive access rules for large goods vehicles. Moreover the model is not suitable for those urban areas where a large number of small independent shops exists. The negative aspects of the case is that a centralised logistics model is complicated to adopt for small businesses, and the case shows how the advantage of the economy of scale is pushing small business out of the market when legislation allows it.

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