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OPATIJA

CITY  
LOGISTICS

HORIZONTAL COOPERATION  
IN URBAN FREIGHT DELIVERY



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..the European Union defines horizontal cooperation as:  
“concerted practices between companies operating at the same level(s) in the market” .... (2001)

...horizontal cooperation is a “tailored relationship based on mutual trust, openness, shared risk and shared rewards that yields a competitive advantage, resulting in business performance greater than would be achieved by firms individually...(Lambert et al., 1999)

...companies can be either competing or unrelated companies that share private information, facilities, or resources to reduce costs or improve service...

...incorporates four dimensions:

- operational/tactical/strategic

operational - “joint execution” or  
“sharing operational information”

tactical - “joint organising” or  
“servicing a market together”

strategic - “joint learning” or  
“joint investments” and  
“joint development of innovative concepts”

...incorporates four dimensions:

- **competitive/non competitive**

  - competitive - transportation companies**

    - servicing different industries**

  - non competitive - transportation companies**

    - servicing the same industries**

- **combined assets – orders, logistics facilities, rolling stock, market power, supporting processes and expertise**

- **objectives - cost reduction, growth, innovation information and quick respons, social relevance**

Horizontal cooperation is about identifying and exploiting win-win situations among companies that are active at the same market in order to increase performance

Empirical research has indicated that horizontal cooperation is considered to be an interesting approach to decrease cost, improve service or protect market positions amongst others

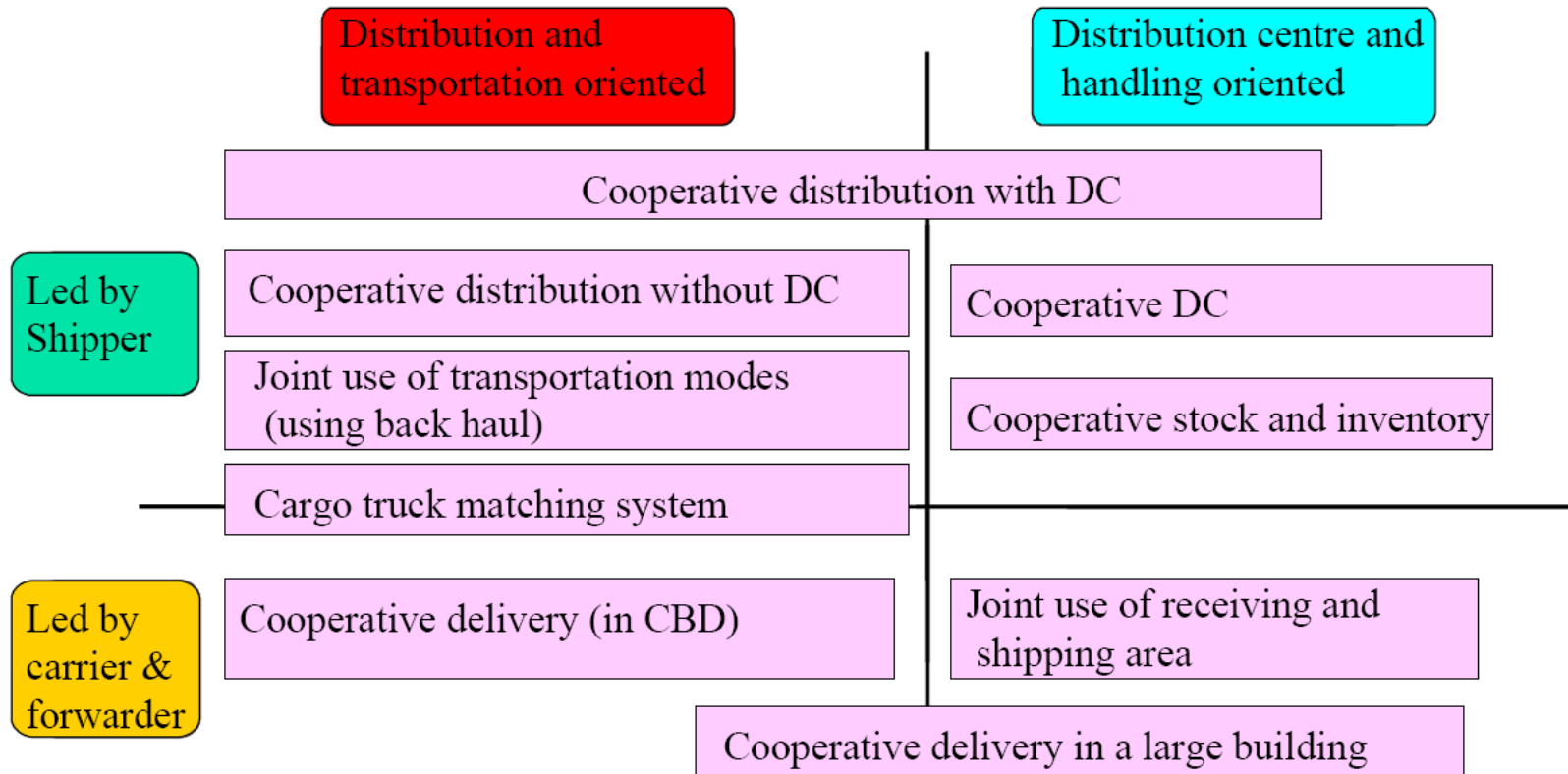
As a result, more and more horizontal cooperation initiatives of Logistic Service Providers and Shippers are developing

A topic that is critical for every cooperation is the fair distribution of risks, costs and benefits among the participants  
This question is too often underestimated, and many promising partnerships have clashed on discussions about gain sharing

The two most important concepts associated with aligning individual and joint goals are commitment and trust



## “Role” distribution schemes among horizontal cooperating partners



Source: Hayashi, K., UMDS, Kobe, Japan

The vast majority of the companies active in logistics execution are small and medium sized companies (SMEs)

As SMEs tend to lag behind in implementation of ICT systems, this can hamper those forms of cooperation that require intensive (order) data exchange

ICT is mainly an issue for horizontal cooperation agreements of a medium intensity

Low intensity initiatives often do not require specific ICT investments and high intensity initiatives are likely to generate sufficient revenue to pay back the required ICT investments

### Rewarding productive behaviour

Rewarding observable actions that lead to a common goal, rather than rewarding the attainment of the goal itself

### Pay-for-performance

Use performance metrics to evaluate the achievements of individual partners on important objectives of the cooperation

### Equitable compensation

Joint goals are set and the created gains are allocated to the partners based on an ex ante agreed gain sharing mechanism

...through simple rules of thumb that distribute savings proportionally to a single indicator of either size or contribution to the synergy...

Some examples in practical cases of cooperation by means of joint routing planning among LSPs and carriers are:

- Proportional to the total load shipped
- Proportional to the number of customers served
- Proportional to the transportation costs before the cooperation
- Proportional to distance travelled for each shipper's orders
  - based on inter-drop distances of constructed joint routes
  - based on direct distances from depot to outlet
- Proportional to the number of orders

- Urban freight delivery ...
  - is unavoidable, indispensable, necessary ...
  - is highly demanded ...
  - is being part of supply chains ...
  - is mostly road traffic - oriented ...
  - has a 10-18% share of road traffic ...
  - contributes to traffic congestion ...
  - generates 40% of air pollution and noise ...
  - uses space consuming vehicles (processes) ...

- **Urban freight management goals are to enable ...**
  - **providing high quality services**
  - **decrease of energy consumption ...**
  - **decrease of traffic congestion ...**
  - **decrease of environmental pollution ...**
  - **decrease of traffic intensity ...**
  - **decrease of road traffic share ...**
  - **promotion of innovative intermodal solutions ...**

City-logistic solutions are involving:

- **Legal-administrative measures**
  - Prohibition, restrictions, special permissions
- **Constructional measures**
  - Terminals, warehousing, delivery spots
- **Logistical measures**
  - Time-scheduling, placement
  - Reservations, rescheduling (ICT systems)
- **Traffic management measures**
  - Traffic controlling
- **Innovative measures**
  - Alternative fuels, ITS solutions

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## Zagreb – city-logistic solutions

Present situation:

Night delivery regulations (24.00 – 07.00 hours) aren't sufficiently  
respected and implemented

Delivery vehicles further increase daytime congestion



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## Measure 7.4 - ZAG Freight delivery restrictions

Zagreb – city-logistic solutions:

Demonstration area: Pedestrian zone and surrounding streets

Introducing of two delivery corridors

Introducing of six delivery spots at pedestrian zone edge

Introducing delivery time-window before midday's peak-hour

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City-logistic solutions in Zagreb are including:

- Legal-administrative measures
  - Special permissions during time-windows

Horizontal Cooperation of local SMEs could organize a “time-share dealing” of special permissions among them

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City-logistic solutions in Zagreb are including:

- **Constructional measures**
  - Traffic sign posting at delivery spots
- **Logistical measures**
  - Time-scheduling during time-windows

**Horizontal Cooperation of local SMEs could conduct a time-windows scheduling among cooperating partners**

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City-logistic solutions in Zagreb are including:

- **Logistical measures**

- **Placement of delivery spots**

**Horizontal Cooperation of local SMEs could arrange a scheduling of different delivery spots among cooperating partners**

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City-logistic solutions in Zagreb are including:

- **Traffic management measures**
  - **Exceptional permission for delivery vehicles to use corridors and delivery spots**
- **Innovative measures**
  - **Variable traffic signs at Gundulićeva street (south corridor)**

**THANK YOU FOR YOUR ATTENTION**

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