PROJECT

SULOGTRA

Supply Chain Management, Logistics and Transport

Funding: European (5th RTD Framework Programme)
Duration: Jan 2000 - Dec 2001
Status: Complete with results

Background & policy context:

Logistics in general and Supply Chain Management (SCM) in particular have become priority items in the discussion of industrial and transport development. The optimisation of Logistics and Supply Chain Management is of crucial importance for the sustainable development of the European economy. Since the current trends and developments in logistics and Supply Chain Management are expected to have a decisive impact on freight transport operations, the European Commission requested an in-depth analysis of their relationship and of opportunities for supply chain optimisation. So the SULOGTRA project became part of the EU Research Programme ‘Competitive and Sustainable Growth’, which is one of the four thematic programmes of the Fifth RTD Framework Programme (1998-2002) issued by the European Commission.

Objectives:

The main aim of the project was to analyse the relationship between supply chain trends and freight transport operations and to facilitate supply chain integration at European level. The following eight items are the project's research objectives, which are closely related to the main aims of the 'Competitive and Sustainable Growth' RTD Programme:

1. Analyse and predict logistical and supply chain trends, by updating and extending earlier EU-funded research on these topics.
2. Examine in depth the logistical decision-making process, particularly as it relates to the management of the freight transport process and to examine ways to move the transport decision upstream in the product cycle to the design phase.
3. Assess the impact of logistical and supply chain trends on the European freight transport system and the market for third-party logistics services.
4. Develop and apply metrics, mapping tools and benchmarking techniques which can be used to measure and compare the performance of European supply chains.
5. Measure the potential for supply chain improvement, in both economic and environmental terms, relative to current best-practice and to theoretical norms defined by quantitative optimising techniques.
6. Analyse the process of value creation in supply chains by node, link and activity and examine its external economic effects at differing geographical scales.
7. Assess the implications of the research findings for policy-makers and offer policy advice and recommendations.
8. Provide practical guidance to industry on logistical / supply chain trends, performance measurement and optimisation.

Methodology:

The research was divided into a total of nine work packages (WP). All but Work Package 7 address a specific research objective:

- WP 1- Analysis of trends in supply chain management and logistics: WP 1 reviewed logistics and supply chain trends, examined the factors and processes driving these trends and forecasted the future development of supply chains over the next 5 - 10 years.
- WP 2- Analysis of management decision-making processes: WP 2 examined the logistics / supply chain decision-making process, particularly as it affects the planning and management of freight transport.
WP 3- Analysis of the impact on freight transport: WP 3 assessed the impact of the observed logistics and supply chain trends on the freight transport system.
WP 4- Supply chain metrics, mapping tools and benchmarking: WP 4 had a strong methodological content and was concerned with the development of supply chain metrics, mapping tools and benchmarking procedures.
WP 5- Supply chain optimisation and best-practice: Having devised methods of measuring supply chain performance, WP 5 examined the potential for improving the management of logistics and supply chains through the adoption of optimising techniques and best practice.
WP 6- Analysis of value creation in supply chains: WP 6 investigated the process of value creation in supply chains and the relationship between logistical activities and economic development. This reviewed previous research on this topic and established a theoretical basis for WP 7.
WP 7- Supply chain case studies: WP 7 surveyed 16 multi-country supply chains. This work package involved extensive primary data collection and analysed and consumed a substantial proportion of total project resources. These supply chain case studies mapped the value creation process by link and node, applied the performance metrics defined in WP 4 and assessed the potential for performance improvement against the best practice criteria established in WP 5.
WP 8- Policy implication and advice: WP 8 prepared advice to policy-makers based on the results of the earlier work packages.
WP 9- Industrial consultation and dissemination: WP 9 handled the dissemination of the research findings to private companies, trade associations and professional bodies. Research partners involved in this work package had responsibility for establishing the industrial user group

Related Projects:
- REDEFINE - Relationship between the Demand for Freight Transport and Industrial Effects
- TRILOG
- LOGICAT
- EDL - European Database on Logistics
- PROTRANS

Parent Programmes:
- FP5-GROWTH KA2 - Sustainable Mobility and Intermodality

Institute type: Public institution
Institute name: European Commission, Directorate-General for Energy and Transport (DG TREN)
Funding type: Public (EU)

Partners:
Germany:
- Zentrum fuer Logistik und Unternehmensplanung GmbH

Greece:
- Research Centre of the Athens University of Economics and Business

Netherlands:
- Netherlands Economic Institute B.V.

Portugal:
- TIS.PT - Consultores em Transportes, Inovação e Sistemas

United Kingdom:
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Key Results:

The SULOGTRA project lasted two years and in that time it accomplished two main objectives: to analyse the effects of supply chain and logistics trends on the transport system and to assess opportunities for improving supply chain performance.

These objectives were achieved in nine Work Packages (WP):

- The achievements of the first three WP were the identification of logistics and supply chain trends and the examination of the decision making process. These included the investigation of underlying drivers of the trends and the development of scenarios within the different sectors for the following ten years. To draw a comparison of experiences in logistics and supply chain management, the situation in Asia and the US was analysed. The examination of the decision-making process showed possibilities of moving the transport decision upstream in the production cycle to the design phase. Different parameters such as supply chain metrics, mapping tools and benchmarking techniques have been developed as the basis for possible improvement of supply chains. A basic requirement of that step was the identification of key performance indicators.

WP 4, 5 and 6 achieved the final preparations for the supply chain case studies performed in WP 7.

- The WP 4 developed supply chain management metrics, mapping tools and benchmarking procedures. Market research was performed on existing supply chain management studies and software tools. Then an individual set of supply chain indicators was developed and presented in a data base model which allows the collection, analysis and mapping of logistics data for the planned case studies.

- The goals of WP 5 were to establish and disseminate best practice. The optimisation goals in logistics and supply chain management were reviewed from private company and public policy perspectives, based on the key performance indicators developed in WP 4. The currently used quantitative optimising techniques were critically evaluated, and a method was developed for assessing the potential for supply chain improvement for application and testing in the case studies.

- WP 6 investigated the process of value creation in supply chains and the relationship between logistical activities and economic development.

- The work of all previous WPs culminated in WP 7, which comprised the supply chain case studies.

Policy implications

The objective of WP 8 -Policy Implication and Advice- was to assess the implications of the trends identified in SULOGTRA against current policies. Because trends do not evolve without a context, it is important to interpret the set of issues that will have a bearing on the development of logistics and SCM. The European transport policy is a broad topic since it touches many other related policies, in the sense that it provides a coherent framework of measures to start an analysis of policy issues affecting SCM trends. The White Book on Common Transport Policy (CTP, 2001) presented a core set of orientations.

These are:
- revitalisation of railways,
- promotion of transport in sea and inland waterways,
- harmonisation of the growth in air transport,
- promotion of intermodality,
- completion of the Trans-European Network and elimination of bottlenecks,
- promotion of high-quality urban transport, and
- regulation of the globalisation of transport.

A second set of relevant orientations, which impact SCM trends directly and which should also be taken in consideration are environmental issues. Because of its repercussion in other sectors of economic activity and the current societal concerns towards a sustainable development, the environmental policy constitutes today the foreground of any debate. The environmental policy puts the focus on the following five issues in which measures have to be pursued:

1) Revert the growth in CO2 emissions in transport;
2) Prevent pollutant emissions and their effects on health;
3) Refrain the growth in transport in particular due to the enlargement;
4) Foster sustainable modal distribution and its development;
5) Reduce noise in transport;
6) Achieve medium and long-term environmental objectives.
Another set of issues that have captured the attention of policy makers in the past years and which are likely to offer new developments impinging on SCM trends are those related to infrastructure. Based on recent policy documents emanating from the European Commission as well as oth

Documents:

[SULOGTRA_final_report.pdf](Final report)

**STRIA Roadmaps:** Network and traffic management systems

**Transport mode:** Multimodal transport

**Transport sectors:** Freight transport

**Transport policies:** Societal/Economic issues

**Geo-spatial type:** Other