

SCIENTIFIC PAPERS  
OF THE UNIVERSITY OF PARDUBICE  
Series B  
The Jan Perner Transport Faculty  
12 (2006)

**LOGISTICS CONTINUOUS IMPROVEMENT SYSTEM**

Petr PRŮŠA, David TILKERIDIS

Department of Transport Management, Marketing and Logistics

**1. Logistics Policy – Logistics Continuous Improvement System**

Logistics policy is an essential document and thought in a company, the policy should be focused on main topics which finally lead to best stock management, reliable supplies and accurate material flow by lowest expenses.

The objectives of the « Logistics Continuous Improvement System are:

- To provide a high quality service to our Customers
- To integrate our Suppliers to our logistics processes in order to pull our flows and reduce our leadtime
- To optimize our logistics processes to reduce our costs and increase our reactivity

This system is based on 3 tools:

- A common Improvement System for all facilities
- A common language for all our logistics people: GLOBAL MMOG/LE
- A common structure to share and to define best practices: Working group meetings

The Logistics Policy shall be built on

- Respect our Customers requirements through systematization of the self assessment of our logistics processes

### **Transparency through a procurement strategy based on supplier partnership**

- Professionalism through skilled logistics people
- Trust through a performing and reliable Information System
- Ambition through the optimization of Physical Logistics Flows
- Profitability through the control and optimization of our production capacity

### **Transparency through a procurement strategy based on supplier partnership**

The logistics performance of the suppliers highly contributes to our logistics performance:

- Stock level
- Freight cost
- Manufacturing leadtime
- Labor cost
- Inventory reliability
- Packaging investment

To archive the goals mentioned above, it is necessary to involve the suppliers using a Supplier Logistics Performance System which consists of implementation of several tools and concept:

- The global MMOG/LE is a continuous improvement and self-assessment tool with a format aligned with ISO/TS 16949:2002 to provide automotive suppliers with a means to measure and streamline their material planning and logistics processes.
- LKPI = Logistics Key Performance Indicators

### **Diagnosis of the procurement system using logistics global MMOG**

The starting step of logistics performance system implementation should be focused on self-assessment. This is an opportunity to find any nonconformances or non-standard processes in the company.

#### The Self assessment will enable:

- To identify the lack of performance in our Procurement process
- Inadequate stock level
- Inadequate packaging
- Heavy receipt control procedure
- Poor inventory accuracy

### To identify the causes

- No logistics agreement on the actual problem, nobody responsible for negotiating logistics conditions
- No meeting with supplier, no measurement of supplier's performance
- Lack of integration between Procurement and both supplier and manufacturing

### To design a global action plan

- Logistics agreement and other related standards (packaging, labeling and document)
- LKPI
- EDI

## **Logistics agreement implementation**

The logistics agreement is an essential document between supplier and customer defining the basic conditions like delivery condition, packaging condition, communication escalation opening windows, etc. The logistics agreement implementation can be done in 3 steps.

Three steps of logistics agreement implementation and its goals:

Define and implement a common procurement process

- to implement a common and consistent procurement process
- to clarify our requirements and our commitments to Suppliers

Diffuse and explain the Logistics Agreement to Suppliers

- to obtain the involvement of the Suppliers and quick results
- to negotiate common terms of agreement (leadtime, incoterm, ordering system...)

Update and optimize the logistics agreement

- to sort quickly and locally the day to day issues
- to negotiate local terms of agreement (packaging, delivery time slot...)

A few issues may be met during implementation phase:

### Making the Logistics agreement a dynamic process

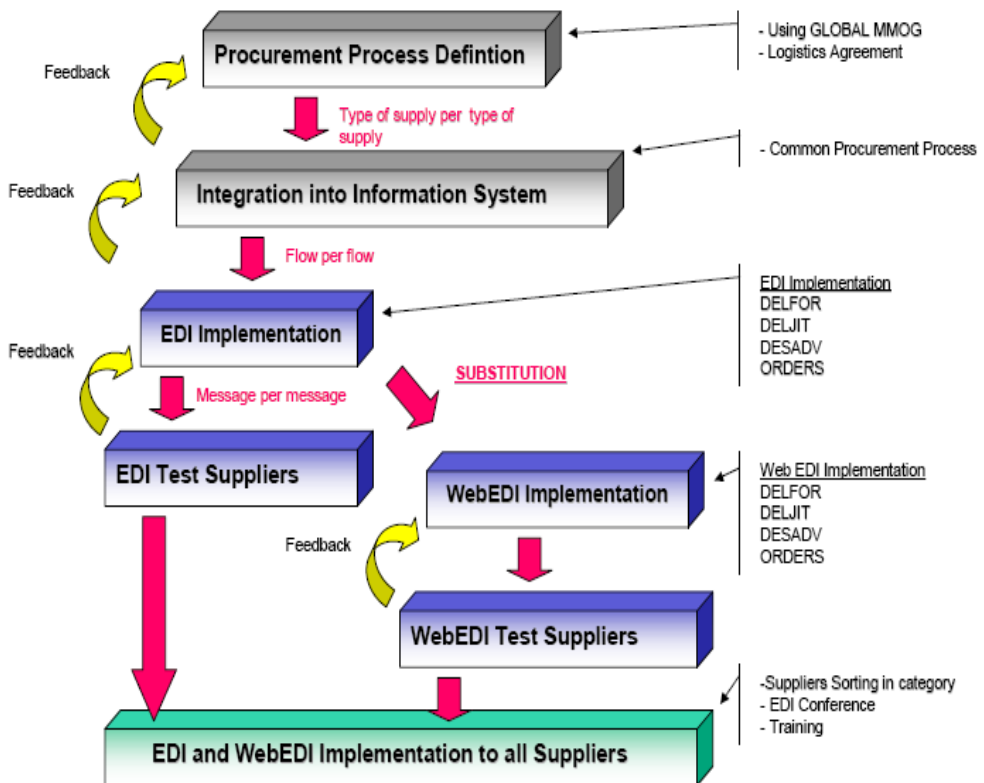
A logistics agreement is efficient if it is not only a « law table », but a real tool to manage the day to day issues and to optimize the logistics. Key of success: Responsibilization of all Actors, ability to have a multi level agreement (global level, site level, reference level)

## Developing a pedagogic approach with the Suppliers

A logistics agreement is efficient if it is explained and if it is understood. Emailing it to Suppliers and waiting for a signature does not work!!! Key of success: Partnership, Conference, Audit using MMOG at supplier site

### **EDI (or XML data interchange) implementation**

Next step of the logistics performance system implementation is a data interchange system implementation. The system should enable a quick and accurate exchange of forecast and material order data with each supplier.



**Fig. 1** Scheme of data interchange implementation steps

There are 3 basic keys of success during EDI implementation:

1. Use of standard messages and Automotive certified solutions (WebEDI).  
To go faster, mutualize cost for Suppliers, make the message mapping easier
2. Develop an internal culture of EDI.

EDI has an important impact on Part Controllers practices, involvement of the Purchasing department is required.

3. Implement message per message with a test period.

Each message must be tested previously with a few suppliers.

### LKPI Implementation

“You can not improve what you not measure...”

Introduction of Logistics Key Performance Indicators is essential for improvement activity as well as it a standardized tool for measurement of main characteristics and in time evaluation. The standardized characteristics enable a benchmarking activity among all suppliers and thus challenging conditions for their improvement. Six basic LKPIs are proposed as an evaluation basis:

**Tab. 1 LKPI**

LKPI 1	ASN <sup>1</sup> presence and accuracy
LKPI 2	Delivery accuracy
LKPI 3	VMI <sup>2</sup>
LKPI 4	Material handling & identification
LKPI 5	Production disruption (Schedule Modifications, Incomplete units, Line stops)
LKPI 6	Supplier communication & Cooperation (Self sufficiency, Reliability, Responsiveness Supplier problem notification, Availability, Flexibility)

### LKPI analysis and diffusion

#### Monthly by the Part Controllers:

- Delivery accuracy

Every 2 Months with all the Part Controllers, Purchasing, Central Logistics:

Analyze and review all indicators

#### On demand to any Part Controllers:

- Delivery Accuracy
- Logistics No conformity indicators

---

<sup>1</sup> ASN = Advanced Ship Notice = information about shipment (qty, packaging, time of arrival) send by supplier to customer via EDI interface

<sup>2</sup> VMI = Vendor Managed Inventory = system of stock replenishment at customer completely managed by supplier (e.g. in Wal-Mart, USA)

### Every 6 Months with Quality Assessment:

- Delivery Accuracy
- Logistics No conformity indicators
- Incident Indicators

All deviations must be contested by Supplier to the relevant Part Controller.

### The implementation of LKPI requires solving 5 following issues:

1. Logistics agreement: existing, communicated to supplier, updated and consistent against selected indicators
2. Information system: coherent against logistics agreement, integration and automation of indicator calculation, reliability of data, accuracy of indicator
3. Organization and resources for performance follow up: who measures? Analyzes? Acts? Integration to quality system?
4. Communication: How do I communicate to supplier? Agregation of results? Target definition? Target review?
5. Purchasing involvement: make indicator reliable? Role of purchasing?

*Lektoroval: prof. Ing. Karel Voleský, CSc.*

Předloženo: 1.3.2007

### **Literatura**

1. CEMPÍREK, V.: Multimodální logistická centra, In Logistika 7-8/2004, str. 30-31, Economia Praha, ISSN 1211-0957
2. BABIĆ, D.: Metode planiranja logističko-distribucijskih procesa, thesis Fakultet prometnih znanosti, Zagreb 2006
3. MADLEŇÁK, R.: Logistika ako klúčový faktor úspechu pri elektronickom obchodovaní In: Diagnostika podniku, controlling a logistika : 1. medzinárodná vedecká konferencia. - Žilina: Žilinská univerzita, 2002. p. 190-192. ISBN 80-7100-951-2
4. IVAKOVIĆ, Č; ŠČUKANEC, A; ŠAFRAN, M.: Optimisation model of logistic forwarding In DAAAM international scientific book 2004 Vienna
5. Protecting Valuable Products During Distribution. [on-line]. Last revision 2002 [2003-12-18]. Available at: URL [http://www.ti.com/tiris/docs/solutions/supply/logsup\\_bond.shtml](http://www.ti.com/tiris/docs/solutions/supply/logsup_bond.shtml)
6. Global MMOG/LE. [on-line]. Last revision 2002 [2007-02-03]. Available at: URL [http://www.odette.org/forum/forum\\_posts.asp?TID=148&PN=1](http://www.odette.org/forum/forum_posts.asp?TID=148&PN=1)
7. ŠVADLENKA L. Management v poštovních službách. První vydání. Pardubice: Univerzita Pardubice, 2006. 121 s. ISBN 80-7194-714-8.

8. Švadlenka, L.; Kampf, R.: Supply and Demand in Transport Model. In New Challenges for Transport and Communications. Fourth Scientific Conference: 14. - 15. September 2006, DFJP University of Pardubice. Pardubice : University of Pardubice, 2006. p. 39 - 44. ISBN 80-7194-880-2.

## **Resumé**

### **SYSTEM NEPŘETRŽITÉHO ZDOKONOLOVÁNÍ V LOGISTICE**

Petr PRŮŠA, David TILKERIDIS

Tento článek se zaměřuje na strategické logistické řízení s důrazem na jasný, přesný a efektivní tok materiálů jak od dodavatelů, tak i interně ve firmě. Politika neustálého zlepšování a zdokonalování je jejím klíčovým prvkem. Zavedením takovéto technologie by bylo prospěšné pro každou společnost a je výzvou pro celý úsek současného průmyslu.

## **Summary**

### **NAME OF YOUR EDITORIAL**

Petr PRŮŠA, David TILKERIDIS

The implementation of a complete Supplier Logistics Performance System is essential to support internal processes efficiency and establish a continuous improvement system according to the main logistics policy. If it concerns Suppliers, the implementation requires a high involvement of all internal actors and must also be considered as a change management issue. To obtain the reliability from Suppliers, 2 values are essential:

- CONSISTENCE: of the logistics agreement, of the procurement practises, of the means to animate, of the indicators measured
- PARTNERSHIP: in order to evaluate we must be ready to be contested and be able to improve also the internal organization

## **Zusammenfassung**

### **EIN LOGISTISCHES SYSTEM FÜR ANHALTENDE VERBESSERUNG DER PROZESSE**

Petr PRŮŠA, David TILKERIDIS

Dieser Beitrag fokussiert auf das strategische Management der Logistik mit Schwerpunkt auf einen klaren und effektiven Materialfluss von den internen und externen Zulieferern. Ein Konzept für ein logistisches System, dass sich für anhaltende Verbesserungen eignet wird im folgenden Absatz geschildert. Jede Firma sollte sich über so solch ein logistisches System Gedanken machen um in der, von harter Konkurrenz geprägten, Industrie erfolgreich zu sein.

