



# LEAN REVERSE LOGISTICS



## BACKGROUND

In the early days, the reverse logistics focus was on the front-end of the retailer's return process. It was meant to provide the customers with the ability to return defective or unwanted merchandise. The facilitation of the returns was a courtesy that turned into a competitive differentiator in retail. It wasn't long before the retailers started seeking for the same concessions from distributors and manufacturers, causing the development of capabilities upstream in the supply chain. The constant evolution has driven the focus from the stock rotation and transportation cost controlling to managing consolidated return centres where the material would be refurbished for reselling.

The best practices today state clearly that reverse logistics is only a part (a very important one) of the back-end services solution, where the consolidation of all the activities related with back-end operations performed by all the different departments of the company including technical customer service, credit note issuing, customer spare parts management and ultimately refurbishing returned items with spare parts.

Reverse logistics is an excellent candidate for Lean Solutions because it is the process of planning, implementing and controlling the efficient and cost-effective flow of materials and information from the sales point to the origin point with the purpose of refurbishing, capturing value or proper disposal. It is also an area of potential where the returns can be avoided by designing the product according to the customer needs.

# CHALLENGES

The biggest challenge today is to reduce as much as possible the returns flow, whilst satisfactorily meeting the needs of collaboration with external partners and suppliers on the reverse logistics process in order to be able to gather information about the demand and get value from the returns that would be seen, otherwise, only as an expense.

## APPLYING LEAN WILL POSITIVELY IMPACT AND ENHANCE THE CAPABILITIES AND POSITIVE FINANCIAL IMPACT OF THE REVERSE LOGISTICS BY:

- Reducing the lead time between origination of the return and the resell, by shortening the link and addressing the aftermarket supply chain issues
- Driving internal integration efforts, for example, between marketing, sales, finance and logistics
- Increasing the returns revenue: Loop recycling, useful parts harvesting, recycling credit (to customer), asset recovering (refurbish, repack, re-labelling), reselling and liquidating stocks
- Reducing pre and post damage direct product costs (how much does it cost to bring the goods to the point of consumption, and how much does it cost to take it back to the supplying node?), reducing goods disposal costs, reducing the carbon footprint, etc.
- Controlling the capital investment by managing the nodes: Flow and throughput oriented facilities have a direct influence in the space needed to hold and handle the inventory, meaning that more operations can be done in the same space available
- Overcoming the geographical constraints by managing the network: Optimised routing processes will ensure a smart use of the transportation fleet and reducing the overall operational costs while enhancing the service frequencies, lowering the response time to order and enabling a better visualisation of every link in the supply chain
- Driving transparency by the implementation of technological solutions: IT solutions such as Transport Management Systems (TMS), Returns Management Systems (RMS) or Radio Frequency Identification (RFID) help to improve the information flow and the traceability of goods, resulting in a better integrated, more transparent, flexible and responsive supply chain
- Decreasing the level of administrative burden
- Complying with the global, regional and local trade rules and regulations
- Managing the constantly increasing complexity of the market: In terms of fuel cost fluctuation, lack of carrier capacity or customers' demands like seasonality, E-commerce, or value adding JIT/JIS operations

## FOCUS AREAS

Waste in reverse logistics processes may vary from the normal concept of waste found in a production environment, but it can be identified, classified and either be reduced or eliminated as well as creating tremendous savings potential by applying Lean principles, Kaizen methods and re-engineering in every phase of the supply chain.

The level of returned volume of goods may vary in the market depending on the type of company between 6% to 20%, and in average only 3% gets dealt with and re-sold at normal sales price. The rest of the goods are liquidated, made obsolete or destroyed.

THE RIGHT LEAN SOLUTIONS IN REVERSE LOGISTICS SHOULD BE AIMED AT IMPROVING THE MANAGEMENT OF THE RETURNS, AND TO DO SO, THE SEVEN WASTES SHALL BE IDENTIFIED, CONTROLLED AND CORRECTED:

### OVER-PROCESSING / OVER-PRODUCTION

All returned goods require inspection which is time consuming because the goods checked are finished goods and the nature of each return has to be understood.

### INVENTORY

Usually when the returned goods quantities are high, the company incurs all the costs that are usually associated with new finished goods, with the downside that the goods selling value is reduced as soon as it leaves the depot the first time.

### TRANSPORTATION

Unnecessary transportation of goods that result in added cost for all material.

### MOTION

This includes any unnecessary movement of people, such as walking, reaching or stretching, due to un-optimised storage facilities, re-working workstations, etc.

### WAITING / DELAY

People, systems and material delays due to badly integrated processes. Delays of transport arrivals, delays on returns preparation or refurbishing are some examples.

### DEFECTS

All the goods that can be refurbished are re-worked / re-manufactured to be sold as A or B stocks 85%. The rest of the goods are disposed of 15%, and usually to do it some degree of work needs to be done to the goods.

### USE OF SPACE

All the space used by returned stocks can be considered as a waste, since they are goods that left the installations to be sold, but now they consume space that could be used for new finished goods.

## LEAN SOLUTIONS

The idea of bringing control, visibility and delivery stability to the full network by designing and implementing Lean to reverse logistics processes, is to enhance the lead time reduction, to release the financial stress by reducing all re-work associated costs and ultimately reducing the cost of the total supply chain output.

BY APPROACHING THE WASTE FOCUS AREAS MENTIONED ABOVE WITH LEAN TOOLS, SOME OF THE OPPORTUNITIES FOR IMPROVEMENT AND BENEFITS IN REVERSE LOGISTICS INCLUDE:

- Information to improve the goods design to meet the needs of the customer more efficiently and avoid returns
- Increase product reliability
- Reduce the use of unnecessary transport by optimising the distribution / collection route planning
- Increase the total inventory control
- Facilitate the product disposal process and reduce the cost
- Reducing the recycling / refurbishing lead time and cost. We implement Lean Solutions in reverse logistics in a similar way to other supply chain solutions, fitting the challenges without sacrificing quality, decreasing lead-time and significantly cutting the costs

## LEAN SOLUTIONS - CONTINUED

### PULL

- Enable FIFO at the batch level
- Reduce inventory levels throughout processes
- Avoid over-production
- Increase visibility of bottlenecks in the process

### ONE PIECE FLOW

- Enable FIFO to a single product / service level
- Create transparency of the real process lead time
- Reduce lead time
- Reduce inventory levels throughout process
- Increase quality
- Reorganise the processes in the right sequence

### TAKT

- Process transparency
- Balanced distribution of the workload across resources
- Process flexibility
- Ability to plan resource capacity and / or improve forecasting
- Optimal efficiency in resource utilisation

### ZERO DEFECTS

- Enables problem root cause analysis and solving
- Prevents problems snowballing through the process
- Increases quality
- Enables an open culture of problem solving vs. finger pointing



# TANGIBLE IMPROVEMENTS

## LEAD TIME

- Goods recall lead time reduced by 50% by optimising the transportation routes
- Goods refurbishing lead times reduced by 30% by optimising the re-working methodologies

## QUALITY

- Increase the knowledge of the customer needs to embed them into the product design for new orders to avoid the returns
- Root cause analysis of the returns enabled the reduction of returned quantities by 97% by including new check criteria to finished goods inspections

## COST

- Reduce storage associated costs by 70% due to reduction of returned goods volume
- Reduce re-working costs associated with the workforce necessary to do all the extensive checks upon receiving and refurbishing of goods



Should you be interested to know more about our Lean services regarding this topic, then please contact us:

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