



Collaboration in Reverse Logistics

WHITE PAPER

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Efficient Reverse Logistics system can transform an increasingly costly and complex returns management process into a competitive advantage. It can be used as an opportunity to reengineer the business processes to get a better picture of the future practices. Reverse Logistics is a very complex and specialized area of any supply chain and it involves handling individual incoming parcels, opening and inspecting products, communicating with internal departments, customers and vendors and then directing products into disposition channels which will provide the highest value. It is necessary to have a synchronized effort from all the supply chain partners for Reverse Logistics to be successful. This white paper explains the various elements of reverse logistics, the need for collaboration in reverse logistics and the opportunities which arise through the processes of Reverse Logistics.

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Introduction

Ever wondered what happened to the book you returned to Amazon because it was not what you ordered or came with a few pages missing? Or to the television you returned to the store since it never turned on the first time you tried to? What happens to that bottle of Coke? What happens to those empty drums of fuel and chemicals at the factory? Welcome to the world of Reverse Logistics.

Reverse Logistics by its nature is a very complex and specialized area of any supply chain. No matter what the product is, how it is sold, or who the customers are, every company needs to focus on recovering the greatest value from returns. All of this while maintaining customer loyalty, controlling cost and harvesting information that helps reduce returns in the future.

Collaboration between all supply chain partners is the key to establish the smooth flow of products and information in reverse logistics. Returns require special information systems, dedicated equipment and personnel trained in non-standard processes. Returns processing involves handling individual incoming parcels, opening and inspecting products, communicating with internal departments, customers and vendors and then directing products into disposition channels which will provide the highest value. To create visibility in the returns supply chain a firm requires greater information sharing and using automated notification to support integrated decision making.

Visibility can be achieved through tracking products which is in turn enabled by technology. UPC barcodes have been in existence for time immemorial now to track the flow of products in the forward supply chain. However, with the limited ability of barcoding, reverse logistics becomes difficult to manage. Hence, the emergence of new technologies like 2D barcoding which enables storage of much larger amount of data on the barcode and also RFID (Radio Frequency Identification) does provide a way ahead to effectively manage returns.

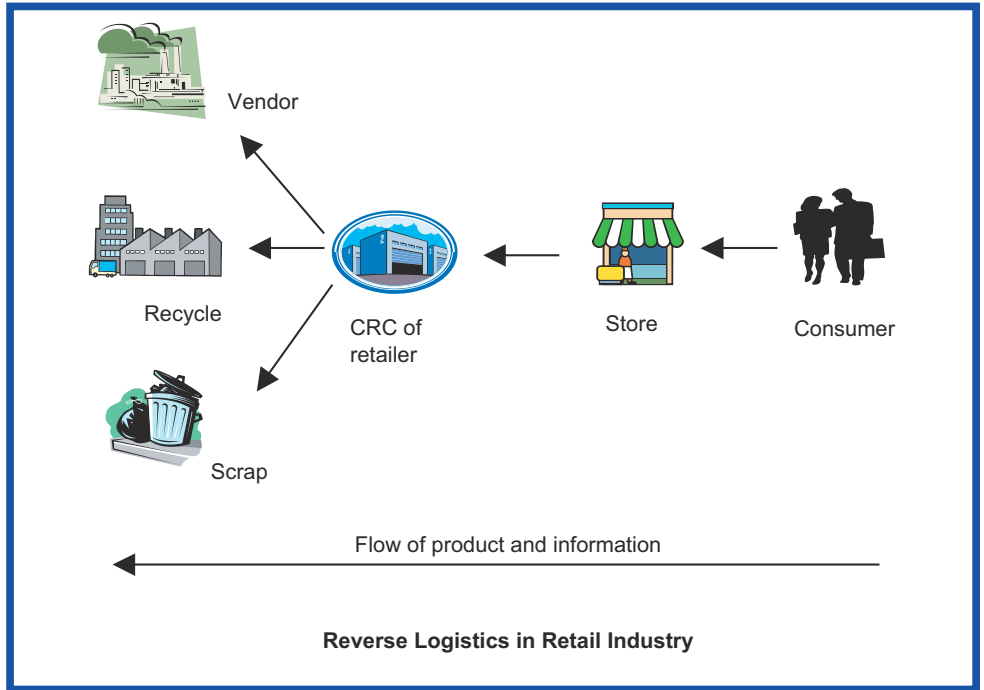
Defining Reverse Logistics

Simply put Reverse Logistics is defined as “the process of planning, implementing, and controlling the efficient, cost-effective flow of raw materials, in-process inventory, finished goods, and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal.”

Reverse logistics has been the neglected child in the extended family of the supply chain in many ways. For many companies the priorities lie in making sure goods get out, not on managing their return in an efficient manner. Others are distracted by the fact that returns can be expensive and hard to administer.

All this has meant returns have traditionally been dealt with as exceptions within the normal operation of core supply chain processes and IT systems. However, as the desire to improve customer service intensifies, reverse logistics has assumed ever greater importance.

Below is an illustration of Reverse Logistics in the Retail Industry:



Elements of Reverse Logistics

Gate keeping

Gate keeping has been defined as “the screening of defective and unwarranted returned merchandise at the entry point into the reverse logistics process.”

Compacting Disposition Cycle Time

Disposition cycle time is the amount of time needed to figure out what to do with returned products once they arrive. Often, when material often comes back in to a distribution center, it is not clear whether the items are: defective, can be reused or refurbished, or need to be sent to a landfill.

Reverse Logistics Information Systems

With the emphasis being given on Reverse Logistics today, the IT system developed to handle reverse logistics should be flexible enough for inevitable future expansion, as well as to have the ability to handle the many exceptions involved in reverse logistics. The reverse logistics system should create a database and track returns at the store level back through the pipeline to the manufacturer.

Centralized Return Centers

CRC’s are dedicated specialized buildings to handle returns. All of the company’s customers send their returns to such a central location where the items are subsequently sorted, processed, and “disposed.” This system is essential for orderly and organized method of handling returns.

Zero Returns

Zero Returns is a program where the company in question does not accept returns from its customer. Rather, it gives the retailer an allowable return rate, and proposes guidelines as to the proper disposition of the items. This strategy basically passes the returns responsibility onto the retailer, while reducing costs for the manufacturer or distributor.

Asset Recovery

Asset recovery is the “classification and disposition of returned goods as surplus, obsolete, scrap, waste and excess material products, and other assets, in a way that maximizes returns to the owner, while minimizing costs and liabilities associated with the dispositions.”

Outsourcing

Many companies have established sound reverse logistics systems and procedures. In many cases, however, it makes more sense for the firm to outsource their reverse logistics functions than keep those in-house.

For the economical handling of reverse logistics, firms require:

- *Collaborative systems* that communicate across organizational boundaries.
- Better data management and timely information processing
- Data capture as close to the source (consumer) as possible.
- Seamless integration with ERP and logistics applications

What is Supply Chain Collaboration?

Collaboration is a concept, an operational philosophy, and a set of principles to guide the enterprises' relationships with its partners. Technology enables collaboration; today's business needs mandate that a business collaborates with its partners if it is to survive.

Simply defined supply chain collaboration is any kind of joint, coordinated effort between two parties in a supply chain to achieve a common goal. Note that these words on their own give no indication of whether the effort we are talking about is at a strategic, tactical, or operational level, what kind of business process is involved, or the degree of collaboration. These things aren't often stated explicitly enough when we talk about collaboration or the tools used to support it.

Since there are numerous processes that partners can collaborate on, it is critical that we are clear about which processes are involved in the collaboration. In this paper we focus primarily on collaborative Reverse Logistics activities, rather than other activities such as collaborative planning, forecasting, design or marketing.

Why supply chain collaboration:

- Provides ability to integrate information
- Enables Monitoring of events in the supply chain
- Provides visibility across the supply chain
- Allows to Manage processes by taking corrective action

Why collaboration in reverse logistics?

The total cost of returns is high.

The *total* costs associated with returns are significant. These costs are cross-functional and hit numerous expense lines, cost centers and budgets. As a result, retailers and manufacturers have difficulty measuring *all of the hidden costs* or fully understanding the business impact.

The hard costs can, with effort, be measured. These include warehouse staff, customer service associates, shipping, storage and inventory space, third party vendors, packaging for disposition, disposal fees and other direct costs. Higher prices from suppliers for accepting returns can also be identified. The soft costs, such as customer satisfaction and loyalty, are much more difficult to measure but can have a major impact nonetheless. Retailers interviewed recently believe that the total cost of returns could be as much as 5-10% of sales.

Value recovery from returns has traditionally been low.

There are a number of established methods for recapturing some value from returned merchandise. In-store sales and return-to stock are labor intensive, provide mixed results and also pose risks to brand equity and cannibalized sales. Traditional liquidation channels have provided low value recovery—often only 10%-20% of retail value due to slow and inefficient paths back to consumers. The Internet has enabled new channels for selected merchandise that offer more direct, faster resale paths with higher recovery.

Return-to-vendor adds significant and unnecessary cost.

Retailers in many industries simply send returned products back to vendor/distributors for credit. Devaluation of product as it moves backward slowly in the supply chain is dramatic. Handling, storage and shrinkage costs mount at every step of the way as the product becomes increasingly out of date. The administrative costs of managing the complex, diverse returns policies among hundreds, or even thousands of retailers, distributors and manufacturers is another major cost of return-to-vendor programs.

In an effort to reclaim some of these costs, leading retailers are now negotiating attractive “no returns” pricing with their suppliers in exchange for taking over all returns, including warranty and repairs.

Merchants going online are finding returns a challenge.

With this boom in online retailing has come some chaos in all areas of customer service and fulfillment, particularly with returns. According to data from a number of industry research firms, return rates for online sales are substantially higher than traditional retailing. Rates of 20% to beyond 30% for certain categories have been reported. Most fulfillment centers, information systems and customer service centers designed for handling traditional retail simply cannot efficiently process this volume of returned merchandise. As a result, returns costs are high and returning credit to consumers has often been slow. This poor performance is a barrier to new or repeat sales to time-focused buyers.

Why focus on Reverse Logistics

Following are a few forceful reasons to focus on Reverse logistics:

1. Returns as a Competitive Advantage. Retailing has become competitive, so every opportunity should be taken for bottom-line improvements. Returns have the potential to be one of the greatest untapped sources for increased revenue and customer loyalty.

2. Returns: Not Just a Necessary Cost of Doing Business. Returns have traditionally been considered just a necessary cost of business. However, the costs associated with returns are far from trivial when all of the hard and soft costs are calculated to determine true business impact.

3. The Traditional Liquidation of Returns Channels Are Slow, Inefficient and Costly. Recovering value from returns is a difficult task through the traditional liquidation channels. Although these channels are widely used, they lack ease and efficiency, and the end result for merchants is the recovery of a mere 10 to 20 percent of cost. Products lose value at every step to final disposition.

4. Returns Contain a Wealth of Information on Products and Merchandising. Returns offer an immense amount of information about consumers and products that few retailers and merchants capture. For example, returns can provide information about the original merchandising, actual product performance, ease of use, product defects and consumer expectations.

5. Return Rates are higher than Ever. Return rates are high and climbing, especially for online businesses which are experiencing increased return rates as a result of trial and impulse Internet purchasing. Calls and traffic to customer service also increases as online buyers, in particular, expect fast credits and refunds.

6. The Cost of Returning Items to Vendors is ultimately absorbed by Retailers. Retailers in many industries simply return products to vendors. Sending more products back to vendor's results in necessary price increases to their customers, the distributors and retailers.

7. Do Third Party Logistic Providers Handle Returns Efficiently? Some retailers have successfully outsourced fulfillment and logistics functions to third parties for better service, lower costs and increased flexibility. However, few of these providers have yet to develop the special processes or to make the incremental investments necessary to handle returns efficiently.

8. Customer Loyalty has become increasingly rare. Merchandise returns are a unique opportunity to engender fierce customer loyalty. L.L. Bean and Nordstrom's have used their liberal return policies as a powerful way to attract and retain their customers.

9. The Growth of Online Retailing is Undeniable and Inevitable. Forrester Research estimates that barring unforeseen events, eCommerce will grow to \$217.8 billion, representing 8% of total retail sales by 2007.

10. Taking Full-Advantage of New Returns Technology is the Key. New technologies and service providers have emerged to address the increasing demand for better solutions in returns management.

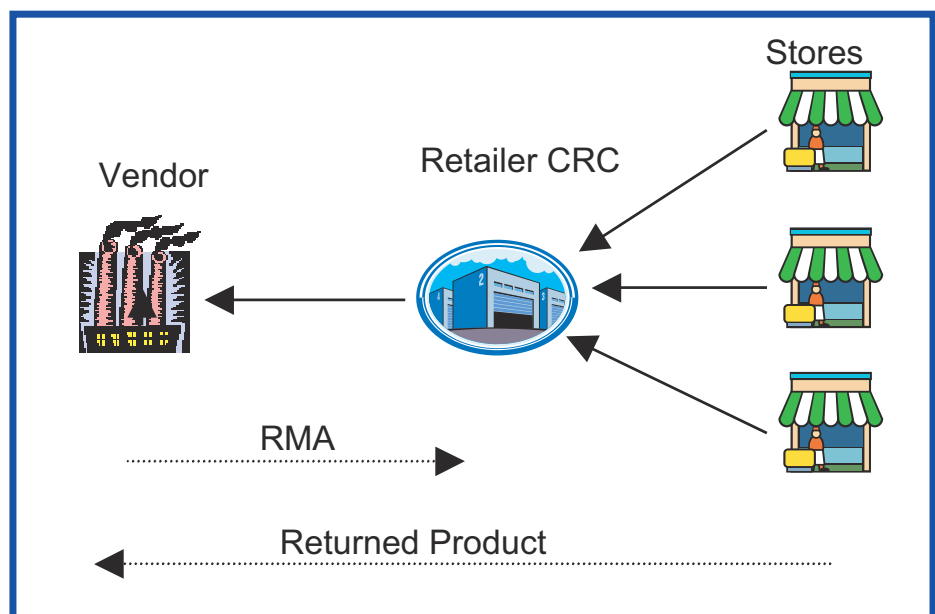
Opportunities for Collaboration in Reverse Logistics

Gatekeeping (Warranty)

One significant area of conflict between a retailer and vendor is the Warranty of returned products. Retailers are expected *not* to accept products returned to them beyond the warranty period. However, there are difficulties in screening defective and unwarranted products at the store level. Store level clerks and front line personnel are often unwilling or unable to gatekeep the returns process, due to the absence of adequate information at the point of return. Moreover, once a product is accepted at the store level from the customer the decision is generally not overturned.

The first steps towards collaboration need to be taken while dealing with warranty at the *customer-retailer interface*. Any product with a lapsed warranty should not be allowed into the reverse supply chain by retailers; such products consume time and effort in the reverse supply chain. If the product enters the supply chain it needs to be dispositioned – recycled, refurbished or returned deciding the appropriate course of action is a potential area of conflict at the retailer-vendor interface. Verification of products at the store level may be done using invoices or serial number of product. However, this is easier said than done because tracking of millions of individual items requires maintaining a large database which proves inefficient, retrieval of information is time consuming and not cost effective.

The next stage for collaboration comes at the *retailer-vendor interface*. Once the product is accepted by the store it is moved to the CRC of the Retailer. There generally is some time gap between these two events. This delay may be due to a minimum return quantity stipulated by the retailer to stores or specified time periods during which returns are accepted. For any product accepted close to the end of warranty, its warranty may expire during this time delay. Hence, information systems at the CRC should be responsive and raise exceptions and alerts to warn the retailer and expedite the returns process. The system should check if demand for this product exists elsewhere in the network of stores and accordingly arrange for movement of stocks.



Another scenario for the expiry of warranty arises when a product awaits a Return Material Authorization (RMA) from the vendor at the CRC. The time delay between the product arriving at the CRC and being shipped to the respective vendor could be very high, due to delays in processing of the RMA, during which the warranty of products may expire. In order to reduce this delay the return process should allow raising RMA's at intervals depending on the product in question rather than a fixed time interval or awaiting an economic shipping quantity. For e.g. for products with a low shelf life RMA processing should be more frequent such that the product does not exhaust its shelf life in the return process.

RMA's could be raised depending on near expiry items and independent of quantity of product being returned. This becomes especially important in industries such as pharmaceutical and agricultural products. In case agricultural products return, it must involve accepting a product as early as possible so that it may be moved to locations where it is required in the near future rather than await an RMA for an inordinate period during which it may be rendered useless for the entire season.

The expiry of the warranty of a product after its return to the store, at any point in the supply chain raises issues of ownership leading to friction between various supply chain partners, especially between vendor and retailer. To resolve these issues amicably it is extremely important that the supply chain partners collaborate to reduce the overall return logistics cost and thereby reduce cost incurred by individual partners.

2D barcoding is a cost effective technology which if implemented will prove helpful in warranty tracking since it enables the availability of such critical information about the product like its description, serial number, date of manufacture, end date of warranty, price, shipping details etc. This enables the tracking of individual products even if it were produced in millions. Thereby, quick decisions regarding movement of products across the supply chain may be taken and reduce the losses due to out of warranty products.

Return Material Authorization (RMA)

A return material authorization is a request sent to the vendor by retailers on a regular basis from the Corporate CRC for the approval or returning products to the vendor. For this request to be approved and individual RMA's sent to the regional CRC's may take a considerable amount of time. Thereby, causing delay in disposition of returned products, delays in transfer of saleable products to other potential markets and occupying valuable space at return centers.

As mentioned above RMA's are prepared on a regular basis, the periodicity being defined by the vendor. Generally, the rule could be to request for an RMA only after a certain minimum number of products being returned, to attain efficiencies in transportation. Alternatively it could be to request for an RMA only after a fixed interval in time. Both these rules are damaging to the flow of products in reverse logistics.

Collaboration would be required between vendors and retailers to ensure the flow of products in reverse logistics. It is important that they understand specifics of the return supply chain and agree on disposition of returned products. To ensure this collaboration information on daily returns needs to be available centrally to both the retailer and vendor so that they may optimize the frequency and cost of transportation.

Return Price Rationalization

It is common knowledge that the price of a product varies over its life cycle. This change in price occurs at irregular intervals and the price may rise or fall depending on the product. This continuous change in price poses a challenge in financial reconciliation when products are returned.

For any product in the retail chain two prices come into play. First, the price paid by the retailer to the vendor and second, the price a customer pays to buy the product.

Customer-Retailer interface: On returning a product, customers demand a reimbursement from the retailer. The retailer is hence obliged to pay the customer at the price at which the product was bought. However, customers may have misplaced or lost the invoice making it impossible to verify the price for reimbursement. Two cases emerge from this scenario:

- i. Reduction in price of product after it was first purchased. Owing to lack of information customers are reimbursed at the reduced price, they suffer a loss. This leads to loss of face of the retailer and a loss in customer loyalty and brand image of the retailer.
- ii. Reduction in price of product after it was first purchased. In this case the retailer is at a loss since he has to reimburse the customer at a higher price. The retailer hence suffers a financial loss on the return in question.

Hence, it is important to be able to track the price of individual products while being returned by customers. Serial number tracking could be the answer to resolve this issue.

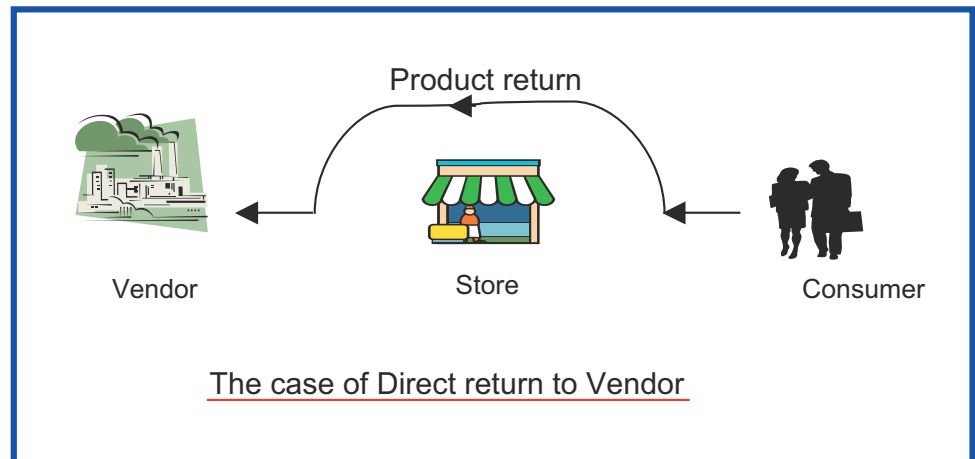
Retailer-vendor interface: Once the product is in the reverse supply chain and the retailer needs to return the product to the vendor an important question arises, at what price should the vendor reimburse the retailer?

Since the price of the product would have changed frequently over the period between its flow in the forward supply chain and the reverse flow the challenge lies in tracking this price at every stage in the supply chain. To gauge the complexity of this problem, imagine a *lot* of a single product returned from the CRC to the vendor, this single lot will contain items of different batch numbers or manufacturing date, hence could have different prices. The challenge lies in getting price visibility of every single item in this returned lot.

The price visibility is extremely significant due to the financial impact it has on the respective supply chain partners. Vendors and retailers should work on a returns policy which does not force either of them to take a hit on losses due to change in price, this returns policy at the same time needs to be framed keeping the end customer in mind else it could threaten customer retention.

Handling Product Returns

The normal return path of a product is its movement from the customer back to the vendor through a retailer. However, in certain instances customers resort to returning products directly to vendors. As illustrated below:



This leads us to a unique interface in the reverse supply chain, the *customer-vendor interface*. This interface warrants the vendor to be in a position to handle the return directly and reimburse the customer as per the price paid by him to the retailer. Customers expect reimbursement for the product returns almost immediately. They do not expect to wait endlessly for the confirmation on product returns between the retailer and vendor. Hence vendors should have adequate information on products being returned in this fashion so as to respond to customers directly. The impact of this direct and timely response is increased customer service, customer loyalty and improved customer retention.

To expedite reimbursements for a returned product vendors need to have information regarding the product/item in question. Details like from which retailer the product was purchased, what was the price of purchase, serial number of the item etc. Serial number information in such a situation is important since it is the piece of information which links the item returned to the retailer to whom the product was sold as well as the customer who purchased it. The link can be established from the point-of-sale information.

Product Returns with Damaged Packaging

Many a time products returned by customers to retailers or vendors are not in the original package. Either the package in which the product is returned is damaged or is of a different product all together. This creates problems in reverse logistics since any identification put on the product is lost and products are not in a position to be identified by any scanning media leading to a discontinuity in information flow in the supply chain.

At the retailer-customer interface: Retailers may refuse to accept products not returned in the original packaging, this leads to friction between customers and retailers which ultimately results in an irate customer thereby affecting customer satisfaction, retention and loyalty and diminishing the brand equity of the retailer.

At the retailer-vendor interface: Products with no means of identification are as good as lost in the supply chain. Retailers should form a strict policy on returns of this kind since the financial liability in accepting such returns falls on them initially, thereby affecting cash flows. Vendors at the same time should resort to using technology that enables tracking of products in the supply chain even if the original packing is lost or destroyed. RFID is one technology which enables tracking of products since the RF tags are placed on the product directly and not on the package.

Conclusion

Many businesses have now realized that a Reverse Logistics system can be used to gain competitive advantage. Even the best retailers and vendors now have reason to review how their returns programs are managed. New technologies and service providers now offer an opportunity to improve overall 'total returns performance'. This means not only reducing the 'total cost of returns', but utilizing returns to improve customer loyalty, merchandising and product performance. Improving 'total returns performance' can transform an increasingly costly and complex process into a competitive advantage. It has forced businesses to reengineer their business processes and look into what can be the next practices in business rather than adopt best practices.

However, for Reverse Logistics to be successful collaboration between all the supply chain partners is imperative. Technology like 2D barcoding and RFID will act as an enabler in achieving collaboration in reverse logistics. Without the common vision behind the need for collaboration none of the elements in the reverse supply chain can achieve the competitive advantage offered by Reverse Logistics.

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