

# The Reverse Gear of Logistics

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## *Abstract*

*It is no surprise that almost every company is looking for ways to increase sales, decrease costs and reduce risks. But in such tough economic times, the easy cuts have been made and all of the simple process improvements have been put in place. Enter reverse logistics, an often overlooked process that can help companies reduce waste and improve profits. And yet reverse logistics seldom receive much attention — that is, until something goes wrong. Many executives go out of their way to avoid dealing with returns because it can be ugly and is thought of as nothing more than a cost of doing business. If ignored, critical reverse logistics functions can cost companies millions in lost profits due to damaged customer relationships and external liabilities that could have an enormous impact on their business. Effectively managed, however, reverse logistics can enable organizations to find hidden profits, improve customer satisfaction and minimize liabilities.*

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## **Introduction**

What is Reverse Logistics?

Logistics is defined by The Council of Supply Chain Management Professionals as:

The process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements. This definition includes inbound, outbound, internal, and external movements.

Reverse logistics includes all of the activities that are mentioned in the definition above. The difference is that reverse logistics encompasses all of these activities as they operate in reverse. Therefore, reverse logistics is:

A specialized segment of logistics focusing on the movement and management of products and resources after the sale and after delivery to the customer. Includes product returns for repair and/or credit.

More precisely, reverse logistics is the process of moving goods from their typical final destination for the purpose of capturing value, or proper disposal.

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Remanufacturing and refurbishing activities also may be included in the definition of reverse logistics. Reverse logistics is more than reusing containers and recycling packaging materials. Redesigning packaging to use less material, or reducing the energy and pollution from transportation are important activities, but they might be secondary to the real importance of overall reverse logistics.

If no goods or materials are being sent "backward", the activity probably is not a reverse logistics activity. Reverse logistics also includes processing returned merchandise due to damage, seasonal inventory, restock, salvage, recalls, and excess inventory. It also includes recycling programs, hazardous material programs, obsolete equipment disposition, and asset recovery.

### **1. Strategic importance**

When companies think about strategic variables, they are contemplating business elements that have a long-term bottom line impact. Strategic variables must be managed for the viability of the firm. They are more than just tactical or operational responses to a problem or a situation.

Not long ago, the only strategic variables a firm was likely to emphasize were business functions, such as finance or marketing. During the late 1970s and 1980s, some forward thinking companies began to view their logistics capabilities as strategic.

Although more and more firms have begun to view their ability to take back material through the supply chain as an important capability, the majority of these firms have not yet decided to emphasize reverse logistics as a strategic variable.

Reverse logistics is strategically used to allow forward channel participants – such as retailers and wholesalers – to reduce the risk of buying products that may not be “hot selling” items.

Strategic uses of reverse logistics capabilities increase the switching costs of changing suppliers. A goal of almost every business is to lock customers in so that they will not move to another supplier. There are many ways to develop linkages that make it difficult and unprofitable for customers to switch to another supplier. An important service a supplier can offer to its customers is the ability to take back unsold or defective merchandise quickly, and credit the customers in a timely manner.

If retailers do not have a strategic vision of reverse logistics today, it is likely that they will be in trouble tomorrow. Retailers in high-return categories – such as catalog, toys, and electronics – can easily go out of business if they do not have a strong reverse logistics program.

Most retailers and manufacturers have liberalized their return policies over the last few years due of competitive pressures. While the trend toward liberalization of return policies has begun to shift a little, firms still believe that a satisfied customer is their most important asset. Part of satisfying customers involves taking back their unwanted products or products that the customers believe do not meet needs.

Generally, customers who believe that an item does not meet their needs, will return it, regardless of whether it functions properly or not.

Some firms have begun to take a more aggressive stance with customers, and have attempted to reduce the number of returns. Because of customer service pressures, it is difficult to make a preemptive step, if other firms operating in the same industry have liberal return policies. If one player in the industry has a liberal return policy, it is difficult for other firms in that industry to tighten their return policies.

Some retailers are beginning to rethink liberal return policies, and balance their value as a marketing tool against the cost of those policies. Return policies are tightening, as retailers look for ways to analyze the returns process and to recapture money that was previously written on the expense side of the ledger.

One reason for a generous return policy is that it leads to improved risk sharing between sellers and consumers. In some channels, consumers can return anything to the retailers, the retailers and wholesalers have liberal return arrangements with manufacturers, and manufacturers end up taking responsibility for the entire product life cycle.

These liberal return policies occasionally turn into return abuse policies, where the manufacturers end up taking an inordinate amount of risk.

Reverse logistics competencies are also used to clean out customer inventories, so that those same customers can purchase more new goods. Automotive companies have fairly liberal return policies in place, and a large reverse logistics network which allows them to bring back parts and components from their dealers. These parts are often remanufactured, so that value is reclaimed. If new parts held by the dealer are not selling well, the companies will give the dealers a generous return allowance, so that they can buy new parts that they really need, and therefore, service the ultimate consumer better. Most dealers, and many dealers in other industries, often have less than state of the art inventory management capabilities. It is in the best interest of parts suppliers to clean out their inventories, reduce credit-line constraints, and improve customer satisfaction.

## **2. “Have a heart, give a sole”**

Another set of competitive reasons are those that distinguish a firm by doing well for other people. Some firms will use their reverse logistics capabilities for altruistic reasons, such as philanthropy.

In 1998, Kenneth Cole Productions, an American fashion house founded in 1982, advertises: "Have a heart, give a sole," and encourages consumers to return old shoes to Kenneth Cole stores during the month of February. In return for bringing in an old pair of shoes, the customer receives a 20 percent discount on a new pair of Kenneth Cole shoes. However, these activities enhance the value of the brand and are a marketing incentive to purchase their products. In each of these examples, firms are utilizing reverse logistics strategically. They are acting as social responsible corporate citizens, by contributing to the good of the community and assisting people who are probably less fortunate than their typical customers.

While these policies may not be the reason all customers purchase their products, they are considered a marketing incentive. It is using reverse logistics to not just be environmentally friendly, but to incent customers at a real cost to their businesses.

### **3. European reverse logistics**

As in the U.S., effective management of reverse logistics is still emerging in Europe. In environmental and green issues, Europe appears to be ahead of the United States. For consumer returns, European reverse logistics practice appears to lag behind leading edge American systems.

The EU first introduced measures on the management of packaging waste in the early 1980s. Directive 85/339/EEC covered the packaging of liquid beverage containers intended for human consumption only but it was too vague to bring about the effective harmonization of national policies. As a consequence, diverging national legislation appeared in several Member States.

Only some EU Member States introduced measures on packaging and packaging waste management with a view to reducing their environmental impacts. Serious Internal Market problems arose when cheap secondary materials from countries with recycling schemes that provided funding for collection and recycling appeared on the markets of other Member States where no such schemes were in place. Collection and recycling activities that relied on cost recovery through the sale of secondary raw material were threatened by collapse.

For this reason, economic operators and Member States approached the Commission to introduce comprehensive legislation on packaging. In 1992, the Commission came forward with a Proposal for a Council Directive on Packaging and Packaging Waste. Following a prolonged discussion in the European Parliament and the Council of Ministers, Directive 94/62/EC was adopted.

This Directive aims to harmonize national measures in order to prevent or reduce the impact of packaging and packaging waste on the environment and to ensure the functioning of the Internal Market. It contains provisions on the prevention of packaging waste, on the re-use of packaging and on the recovery and recycling of packaging waste.

In 2004, the Directive was reviewed to provide criteria clarifying the definition of the term 'packaging' and increase the targets for recovery and recycling of packaging waste. In 2005, the Directive was revised again to allow new Member States transitional periods for attaining the recovery and recycling targets.

This Directive provides for measures aimed at limiting the production of packaging waste and promoting recycling, re-use and other forms of waste recovery. Their final disposal should be considered as a last resort solution.

This Directive covers all packaging placed on the European market and all packaging waste, whether it is used or released at industrial, commercial, office, shop, service, household or any other level, regardless of the material used.

Member States should take measures to prevent the formation of packaging waste, and to develop packaging reuse systems reducing their impact on the environment.

Directive 2005/20/EC sets a later deadline for the 10 new Member States (the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia, Slovakia) to meet the targets of this packaging directive. These derogations are valid until 2015. Romania and Bulgaria have also been granted specific derogations, defined in their respective Treaties of Accession.

#### **4. Grüner punkt**

The main objectives of the European packaging objectives are the avoidance and reduction of environmental impact from packaging and packaging waste – with the concrete target of reducing packaging waste across Europe by 50 per cent. Other principles in the directive include the re-use and recycling of packaging waste in terms of material and energy.

The directive specifies outline conditions and contents which all member states of the European Union have to implement into national law. As a result, each member state must execute the action required for the setting up of return, collection and recycling systems for used packaging. However, each country is at liberty to organize such systems itself.

National implementation of European law in Germany is manifested in the German packaging ordinance. This specifies that manufacturers and distributors of sales packaging filled with goods, which normally end up at the private end consumers, are responsible for the collection, sorting and recycling of their packaging. Such duties are completely fulfilled by participating in a dual system.

There are now 33 members active across Europe and in Canada under the umbrella of PRO EUROPE; 24 of these use the Grüner Punkt as a licensing symbol for packaging recycling. In addition, PRO EUROPE has entered into cooperation agreements with similar systems in Great Britain (VALPAK), Canada (CSR), Finland (PYR), Iceland (Islandic Recycling Fund) and the Ukraine (UkrPEC), who ensure that legitimized license holders of the Grüner Punkt can distribute their packaging labelled with the symbol without any problems.

Pursuant to the packaging ordinance, there has been no obligation to label packaging since 2009. However, labeling of packaging is useful and is still used by most companies placing packaging filled with goods onto the market for the first time. Der Grüne Punkt indicates to the end consumer that the respective sales packaging can be disposed via the yellow bin or yellow bag, etc. In addition, the trademark „Der Grüne Punkt“ shows that customers take their producing responsibilities seriously and fulfill their obligations in line with the packaging ordinance.

The German packaging ordinance is the implementation of the European Packaging Directive into German law.

A dual system is a secondary disposal system and was set up – in addition to the public waste disposal system – exclusively for used sales packaging. In 1990 „Der Grüne Punkt - Duales System Deutschland GmbH (DSD)“ was founded as the first dual system which has developed today's household collection system in Germany. By order of its customers, DSD GmbH organizes household packaging

waste collection (via the yellow bin / yellow bag, containers for glass etc.) and ensures professional sorting and recycling of packaging. The disposal services (collection, sorting and recycling of sales packaging) are financed via participation payments and are executed by commissioned disposal companies. Manufacturers and distributors who do not register their sales packaging within a dual system are acting contrary to regulations. This may result in a civil fine.

**Private end consumers** in the terms of the packaging ordinance are households and so-called comparable sources of waste packaging, especially restaurants, hotels, canteens, administration centers, barracks, hospitals, educational centers, charity centers, freelancers and typical sources of waste in the field of culture such as cinemas, operas and museums as well as the leisure-time sector such as vacation camps, leisure parks, sports stadiums and restaurants.

Comparable sources of waste also include agricultural and craftsmen businesses which can be disposed in a waste collection cycle typical for households via household collection bins for paper, cardboard, cartons and light packaging using a transfer bin for not more than 1,100 litres per material group.

Companies which trade with sales packaging filled with goods which are normally purchased by end consumers are obliged to participate in a dual system for the disposal of such packaging.

The word, **participation** is a term from the packaging ordinance. *Participation in a dual system* means that the manufacturer and distributor of sales packaging filled with goods which normally accumulates at the private end consumer must participate in one or several dual systems in order to ensure national return of such packaging. The collection, sorting and recycling of sales packaging entered into the market is thus financed via so-called *participation payments* which are made to the dual systems.

The costs for participation in the dual system of DSD GmbH depend on the packaging material used and the weight of sales packaging entered into the market. The minimum payment to participate in the dual system of DSD GmbH is 140.00 € net / year.

The dual system of DSD GmbH has been set up nationally in the Federal Republic of Germany since 1993 and organizes the collection, sorting and recycling of sales packaging. On participating in the dual system of the DSD GmbH, observance of appropriate participation duties from the packaging ordinance is guaranteed.

**Sales packaging** is packaging offered as a sales unit and which accumulates at the private end consumer, i.e. in private households and comparable sources of waste. Sales packaging also includes so-called service packaging, i.e. packaging from the trade, gastronomy and other service providers which enable the handing over of goods to the private end consumer (e.g. shopping bags, baker's bags etc.) as well as disposable plates etc.

Since each packaging which accumulates at the end consumer is defined as sales packaging, this also especially includes shipping cartons e.g. from internet traders, filling material and even shopping bags. These are often wrongly defined

as transport packaging.

Pursuant to the packaging ordinance, manufacturers and distributors of sales packaging filled with goods which are normally passed on to the private end consumer are responsible for having the collection, sorting and recycling executed via a dual system.

**Transport packaging** is packaging which facilitates the transport of goods, protects goods during transport or is used for reasons of safety of transport and which accumulates at the distributor (e.g. the trade). The decisive factor is that the packaging ends up at the distributor and not at the private end consumer. Transport packaging can therefore include, for example, pallets, shrink-foil and boxes with several sales units which merely serve for transport protection and which end up at the distributor.

The difference is in the location where the used packaging ends up for disposal (source of waste). Transport packaging ends up at the distributor (e.g. the trade) and sales packaging at the private end consumer, e.g. household, restaurant etc.

Manufacturers and distributors are responsible for the disposal of used transport packaging.

Der Grüne Punkt – Duales System Deutschland GmbH also provides a waste management service for transport packaging.

Costs for the disposal of transport packaging depend on the packaging material of the entire transport packaging used. The minimum payment is 500 € net / year.

**Shipping packaging** is "shipping material used for the transport of goods and which accumulates at the end consumer (especially shipping packages from internet and mail-order trade, including direct selling). Shipping packaging is to be categorized as sales packaging" (Source: [www.laga-online.de](http://www.laga-online.de)) and is therefore not categorized as transport packaging.

Manufacturers and distributors of shipping packaging are responsible for disposal. Since shipping packaging is sales packaging in terms of the packaging ordinance, participation in a dual system is also obligatory for shipping packaging.

When using used packaging, e.g. used cardboard boxes in internet trade, there is also an obligation to participate in a dual system. Burden of proof is with the person/company which places the sales packaging filled with goods into the market.

**Service packaging** is packaging of the trade, gastronomy and other service providers which enable the passing on of goods to private end consumers (e.g. shopping bags, baker's bags, etc.).

In the case of service packaging, the packaging ordinance specifies the exception that obligation to participate in a dual system can be delegated once to a preliminary sales level (manufacturer/ distributor or pre-distributor).

The DSD facility **waste management system** is intended for both manufacturers and distributors.

Within the scope of facility waste management, production waste, organic waste, special or packaging waste is disposed at the location of the company or in branches or a branch network.

## 5. Outsourcing reverse logistics

Once an organization has determined that it is worth investing in its reverse logistics capabilities, the question becomes whether reverse logistics should be developed internally or outsourced. Today, a majority of retailers and manufacturers outsource some or all of their reverse logistics processes. How much of their reverse logistics process to outsource depends on the experience and capabilities of their internal management team. There are four distinct parts that make up a comprehensive reverse logistics process. Most companies outsource one or more of these:

1. Product processing – which includes transportation
2. Repair and refurbishment
3. Liquidation
4. Returns management systems

Regardless of whether a company is going to outsource all or part of their reverse logistics program, a critical best practice is to setup reverse logistics operations separate from forward distribution activities, with dedicated executive oversight. This dedicated autonomy will help ensure reverse logistics gets the attention that is required while empowering an executive to oversee the process to ensure success.

Reverse logistics is often outsourced to third party logistics providers (3PLs), even by companies that have best-in-class supply chain functions and complex global networks. The core reasons for this outsourcing are: obtaining reverse logistics expertise quickly; achieving greater flexibility and faster speed to market; and creating a protective barrier against outside forces to limit potential liabilities.

Many companies outsource reverse logistics because they do not have the expertise within their management ranks to run the area, or they would rather put their resources toward manufacturing or customer service. Manufacturers often dedicate their top talent to running manufacturing plants, working with customers or managing imports – not focusing on returns. With a 3PL provider, manufacturers receive the focus, motivation, experience, existing technology, capital resources and staff to hit the ground running.

A qualified 3PL can have an immediate and significant positive impact on the outsourcing company simply because of its experience in developing returns operations and start-up processes. These service providers can also help leapfrog the competition by leveraging their existing facility networks, returns management systems and liquidation partners while sharing best practices that will minimize processing costs. A quality 3PL will be able to implement new reverse logistics operations within six months, while most internally-implemented programs will take at least twice that long.

Companies also outsource to cap and control other risks and liabilities such as inventory shrinkage, workers compensation expenses, medical benefit costs and other “non-controllable” expenses. Companies protect themselves by either negotiating a fixed fee arrangement for multiple years or with some form of variable pricing. This enables companies to limit risks by negotiating cost caps as a part of their outsourcing agreement.



When selecting a 3PL, it is important that companies do their homework and select a provider that has real experience providing reverse logistics services in their market.

- Do they have a network of facilities that can be leveraged to optimize transportation expenses while improving customer response times?
- Can they provide inbound and outbound transportation support?
- Can they help improve the product flow upstream so companies can process more efficiently and maximize the value of the returned assets downstream?
- Do they understand the impact of returns on customers, suppliers, stores, distribution centers (DCs) and the financials of the company?
- Do they have existing operations repairing product that is similar to returned items?
- Do they provide other services that can be leveraged to reduce overall operations costs?

Reverse logistics can increase profits and customer satisfaction. Conversely, a weak reverse logistics program can drive customers away and increase costs and liabilities. Reverse logistics is a critical part of the supply chain that is worth developing. Though often overlooked, there are few processes left that have as much potential to positively impact earnings as reverse logistics. Some key recommendations for those considering improving reverse logistics processes should be:

- **Know The Returns** – what kind of returns the company commonly receives and discover what typically happens to each item in the returns process. Place a Value on Returns – what potential materials can be reclaimed or how the returned product can be resold in secondary channels. How an improved logistics process for repairs can boost customer satisfaction in the business. How much is one loyal customer worth to the business? Do not ignore recycling or final disposition issues. All of these considerations can lead to direct financial benefits.
- **Assess The Infrastructure** – From the location of the returns processing center and necessary transportation support to the staff assigned to execute the reverse logistics plan, consider what strengths and weaknesses might exist. Getting value out of any reverse logistics program relies on being efficient and taking advantage of every opportunity to squeeze more revenue from all returned products.
- **Identify Success** – Depending on the value opportunities that exist for returned product. After all, a successful reverse logistics program may lead to increased revenue that can be measured, or success may be protecting revenue from potential risks.
- **Commit to Success** – Whether employing a 3PL or developing internal processes, companies must realize that reverse logistics is an ongoing process that requires vigilance. Transportation costs, returns processing, staffing needs and company culture changes may seem costly until weighed against the long-term financial benefits that can result from a comprehensive reverse logistics plan.

## 6. Challenges & opportunities

Many companies do not have an awareness of the current costs associated with reverse logistics. Reasons for this may include poorly defined processes and lack of system support. Due to the variable nature of returns, both processes and systems must maintain a degree of flexibility to manage the returns process.

Most products are engineered to incorporate manufacturing efficiencies, but few product designs take into account the impediments to disposition that a product's lifecycle should incorporate. And while business partners often play key roles in the disposition of a product, all parties need to be well informed about true costs and possible revenue opportunities, so when entering into an agreement the financial and marketing goals are clearly understood.

If they are not trained or encouraged to manage the reverse logistics of their customers, corporate representatives such as sales and customer service personnel can become impediments to the process.

But, if properly motivated, they can become gatekeepers for the reverse logistics process. This is exemplified by Dell, where no computer can be returned unless a phone call has been placed to a technical customer service representative. The agents can often walk consumers through set-up and early usage issues and, in effect, talk them out of returning the machines. In fact, the gatekeeping function can actually provide an opportunity to up-sell and cross-sell. Company policies and employee incentives must be reviewed to ensure they are not acting as barriers to otherwise advantageous reverse logistics programs.

Reverse logistics programs are typically complicated by a number of factors. Paperwork and poor workflow processes tend to plague reverse logistics operations. This is exacerbated by the multiple entities – customer, manufacturer, reseller and disposer – that need to partner to develop a smooth reverse logistics program.

As is often the case in complex business systems, the starting point for reverse logistics operations' improvement is not within the operational processes. It must happen well before operations and even before a product reaches production. Marketing should define:

- How the secondary market affects original equipment demand.
- What customer experience is sought.

Once these numbers are derived, a manufacturer can focus on the operational improvements needed to achieve these numbers.

An often overlooked strategic aspect of reverse logistics is that it “clears the channel” for future purchases. By working with customers to trade up to replacement or new products, companies are able to elude inefficiencies and costs by avoiding product obsolescence. This also releases capital and space for replacement products. Of course, customers may buy replacement products, but what happens to the existing products that were displaced? The older products could very easily find their way into secondary markets and lessen the demand for newer products.

VCR manufacturers present a good example of an industry that failed to provide reverse logistics. With the growing popularity of DVDs, have any of the

VCR manufacturers tried to retain customer loyalty by offering a reverse logistics program for old VCRs? Or are the margins so thin on VCRs and DVD players that the products do not warrant a reverse logistics strategy? Consider the lost opportunities for the manufacturers to gain customer loyalty by helping dispose of old technology while up-selling and/or cross-selling some of its newer products. Time and again, new technologies are introduced to customers without reverse logistics strategies or market penetration goals in place.

The computer industry is another example where solid reverse logistics strategies and goals can help a company end the lifecycle of one of its old products while introducing newer technology to its customers. The key is to dispose of the old product, but keep the customer. A good reverse logistics strategy should be as much about the lifecycle of the customer, as the lifecycle of the product.

### **Conclusions**

Reverse logistics practices vary based on industry and channel position. Industries where returns are a larger portion of operational cost tend to have better reverse logistics systems and processes in place. In the IT&C industry where life cycles are nearly as short as grocery life cycles, the speedy handling and disposition of returns is now recognized as a critical strategic variable.

Successful retailers understand that managing reverse logistics effectively will have a positive impact on their bottom line. Industries that have not had to spend much time and energy addressing return issues are now trying to make major improvements.

While many companies have yet to recognize the strategic potential of efficient reverse logistics, it is clear that the tide is beginning to turn. There is more interest in reverse logistics now than ever before. Firms are beginning to make serious investments in their reverse logistics systems and organizations. One clear indication of the strategic importance of a business element is the amount of money spent on managing that element.

Given the volume of returned products experienced in some industries, it is not surprising that the firms in those industries consider returns a strategic and core competency. It appears likely that companies in industries that generally do not place much value on good reverse logistics practices, will, over the next few years, find that making investments in their return systems will enhance their profitability. It is clear that for many firms, excellent reverse logistics practices add considerably to their bottom line.

As the shift from waste to resource management continues, the logistics of collecting, processing and recycling materials has become more complex. The wider range of materials now recycled at the kerbside (including low density materials such as plastic bottles and cardboard), often requires a review of collection rounds and practices. Kerbside collection, or curbside collection, is a service provided to households, typically in urban and suburban areas, of removing household waste. It is usually accomplished by personnel using purpose built

vehicles to pick up household waste in containers acceptable to or prescribed by the municipality.

At the same time, local authorities and waste management operators are looking at ways to increase trade waste recycling, delivering progress against landfill diversion targets and in light of increasing landfill tax levels. Once collected, materials are being processed via new technologies (such as In Vessel Composting or Mechanical Biological Treatment). The effective siting and sizing of these facilities and optimized distribution of products to end markets and disposal is a key consideration for planners and developers alike. The challenge is to deliver customers the optimum balance of cost versus service whilst managing a whole new set of contractual and physical constraints.

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