

## A Analysis of the Reverse Logistics System

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### Abstract

In the competitive world of manufacturing, companies are often searching for new ways to improve their process, customer satisfaction and stay ahead in the game with their competitors. Reverse logistics has been considered a strategy to bring these things to life for the past decade or so. This thesis work tries to shed some light on the basics of reverse logistics and how reverse logistics can be used as a management strategy. This paper points out the fundamentals of reverse logistics and looks into what kind of decisions today's logistics managers have to take on a daily basis for the improvement of their logistics model. A growing concern has been developing to control rising global pollution, this paper also brings out some of the effects of reverse logistics decisions on the environment and vice versa. The thesis starts out by compiling the works of researchers and logistics experts in the field of logistics in the theoretical background section. Through a survey conducted in a few manufacturing firms in India, a small picture of the extent to which reverse logistics has penetrated the manufacturing world has been drawn.

**Keywords:** Reverse Logistics, Green Image, Corporate citizenship, Reverse Logistics activities, Returns.

### Introduction

Reverse logistics is a fairly new concept and not until recently have researchers and logistics companies tried to focus on its effects on the managerial decisions. Also in recent years' customer satisfaction has been considered a very important aspect in the growth of any company and the focus on improving customer satisfaction has increased greatly. Recently researchers have found that reverse logistics can play an important role in improving customer satisfaction.

The main focus of this thesis would be to answer the following questions:

- What is the definition of reverse logistics?
- What are the principal steps involved in reverse logistics?
- What do companies do with the returned products?
- How do the returns affect the decisions made in manufacturing firms?
- How do environmental issues affect the reverse logistics decisions?

The literature review in this paper gives a clear picture about the concept of reverse logistics. The thesis makes an attempt to cover the works of various.

### **Methodology**

A thorough literature study on the topic of this paper: Reverse Logistics was conducted for a short period. Several articles were found on the topic over the internet. After getting somewhat of a fair idea about reverse logistics, a preliminary set of questions were formulated for the survey. Most of the questions were either taken directly or inspired by the questionnaire developed by Rogers and Tibben-Lembke (1998), for their paper “Going Backwards: Reverse Logistics Trends and Practices”. And one might even say that to a great extent this thesis has been inspired by the above mentioned paper.

### **Interview**

After receiving the responses to the survey for this thesis, interviews were conducted with the respondents to better understand their responses and also to get a better idea of their understanding of the concept of reverse logistics. The interviews more like discussions were conducted with the respondents over the phone and through online chats.

### **What is being returned?**

The third viewpoint on reverse logistics is obtained by looking at what is actually being returned. The three product characteristics that are relevant in this regard are:

- Composition
- Deterioration
- Use-pattern

### **Who is executing reverse logistics activities?**

The three main participants in the reverse logistics activities can be given as:

Forward supply chain actors (supplier, manufacturer, wholesaler retailer) and Opportunistic players (such as charity organizations). Specialized reverse chain players (jobbers, recycling specialists etc...)

### **Classification of Reverse Logistics Activities**

Rogers and Tibben-Lembke (1998) classify reverse logistics activities based on whether the goods in the reverse flow are coming from the end user or from another member of the distribution channel such as a retailer or distribution center; and whether the material in the flow is a product or a packaging material as given in Table 1.

**Table 1. Classification of Reverse Logistics Activities**

	<b>Supply Chain Partners</b>	<b>End Users</b>
<b>Products</b>	Stock Balancing Returns Marketing Returns End of Life/Season Transit Damage	Defective/Unwanted products Warranty Returns Recalls Environmental Disposal Issues
<b>Packaging</b>	Reusable Totes Multi-Trip Packaging Disposal Requirements	Reuse Recycling Disposal Restrictions

### **Challenges in Reverse Logistics**

Most challenges in managing reverse logistics can be traced to two broad categories- Process and Investment (Two Steps Forward, One Step Back..., Saty Chawla, May 2007).

#### **Ill-defined processes**

- Too many touches points-A high number of touch points significantly increases the chance that the condition of the product will deteriorate.

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- Long cycle time-A high number of touch points in turn increases the cycle time which in turn increases the waiting time for the customer's return order. It also provides little time to recondition, repack and resell the product.
- Missing feedback Mechanism-Incompetent business intelligence leads to incompetent reverse logistics, and not being able to track the issues that affect the reverse logistics.

### **Neglect**

- Out of Focus-Previously management executives believed that making returns easier for the consumer increases the behavior of returning until it was found out to be profitable for the companies recently by researchers.

### **RESULTS**

The survey targets at answering 6 basic questions:

- Which companies are affected by reverse logistics?
- What do they know about reverse logistics?
- How do customers choose their suppliers?
- How do returns affect the manufacturers?
- What happens to the returned goods?
- How well have the reverse logistics concepts penetrated the manufacturing industry?

In the following parts of this section these questions have been explained based on the responses to the survey.

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