

# [The reverse logistics definition according to several authors business essay](https://assignbuster.com/the-reverse-logistics-definition-according-to-several-authors-business-essay/)

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One of the pleasant things about completing a project like this is to have an opportunity to thank those who have been contributing to its coming into life. I am indebted to many individuals for their support, inspiration, and encouragement, which has made the past six months such a rich experience to me. Firstly, I would to express my sincere appreciation and gratitude to Mr. Dorai for his dedication, guidance and mentorship throughout my research dissertation. Thank you for your perseverance with me throughout this process and successfully guiding me throughout this program. This dissertation represents the culmination of countless influences and continues encouragement from family, friends, professionals, and professors. And I would also like to thank the college for providing me with a good opportunity to pursue my interest.

## Introduction

Reverse Logistics and SCM practices are a set of activities undertaken to promote effective and efficient management of supply chains. These include supplier partnership, physical movement of goods, meeting customer demands and information sharing throughout the supply chain. Some of the key logistics and SCM practices that impact performance are related to estimation of customer needs, efficient and effective delivery, integration and collaboration throughout the supply chain, sharing of information and vision using ICT as well as informal methods and use of specialists for performing specific jobs across the supply chain. All of these practices impact logistics and supply chain performance. 1. 1 What is Reverse Logistics? Logistics is defined by The Council of Logistics Management 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 origin to the point of consumption for the purpose of Conforming to customer requirements. To be more precise, reverse logistics is the process of moving goods from their final destination for the purpose of capturing value, or proper disposal. (Rogers and Tibben-Lembke)Typical reverse logistics activities would be the processes a company uses to collect used, damaged, unwanted (stock balancing returns), or outdated products, as well as packaging and shipping materials from the end-user or the reseller. (Rogers and Tibben-Lembke)The process of reverse logistics includes return Policy administration, product recall protocols, repairs processing, Product repackaging, parts management, recycling, product disposition management, maximizing liquidation values and much more. (Curtis Greve and Jerry Davis)

## 1. 2 Reverse Logistics Definition According to Several Authors

## DEFINITION

Kroon and Vrijens (1995)Logistics Management and the activities involved in the reduction, management and waste disposal and not disposed waste (packaging and products). Implies that goods and services flowing in the opposite direction to normal logistic activities. Guide et al (2000)The task of recovering discarded products, including packing and shipping to a central point for recyclingFleischmann et al. (1997)The process by which logistics activities through the used products short-lived move to new usable products in a market. Carter and Ellram (1998)RL is the process through which companies can reach to be more environmentally efficient through recycling, reuse and reduce the amount of materials used. Krikke (1998)Collection, transport, storage and processing of products discarded. Ross (1998)Involves the transfer of goods from their typical final destination to another, captured the value of the product that would normally be lost by this move. Stock (1998)The term refers to the role of logistics in the returns product, origin, reduction, recycling, material substitution, reuse of materials, repair and remanufacturing, and is a model systematic business that provides the best logistics and engineering better methods of management in the company to profit this flow. Rogers and Tibben-Lembke (2001)Is the process of planning, implementing and efficiently control the flow raw materials, inventory in progress, finished goods and related information, from the point of consumption towards the point of origin in order to recapture, create value, or disposal. Stock (2004)RL is a term often used to refer to role of logistics in product returns, reduced supplies, recycling, and reuse of materials substitution, elimination waste, reprocessing, repair and remanufacturing. Rogers and Tibben-Lembke (1999)Designing, implementing and controlling a flow of raw material inventory process, finished goods and related information from point consumption to the point of origin in an efficient and most economically as possible in order to recover its value. Tibben-Lembke (2002)RL manages the return of the goods in the supply chain supply, the most effective and economical manner. Council of Logistics Management (2003)Role of logistics in recycling, waste disposal and management hazardous materials, a broader perspective includes all related to logistics activities carried out in reducing input, recycling, substitution and reuse of materials and their disposal final. Soto (2005)Is a process adapted to the objectives of the reverse flow of products. 1. 3 Importance of Reverse Logistics

## The impact of reverse logistics on a company’s bottom line has generated a greater awareness of the importance of reverse logistics. Financial and business magazine Forbes estimates that US firms spend $100 billion annually on returns and these returns represent up to 7% of a company’s gross sales. But money isn’t the only reason why companies should effectively manage their return supply chain. Companies are only as good as the relationships they establish with their clients, and the management of customer returns is a significant contributor to the satisfaction of a company’s clientele. One frustrating experience with a poorly-handled reverse logistics process can result in the loss of a key client, which can significantly hurt a business’ bottom-line. The options that are available in Online-retail have also contributed to the increased awareness of the importance of reverse logistics. As more and more on-line vendors offer easy, no-fault returns, an ever-greater amount of merchandise ordered online will be sent back, potentially flooding a company’s reverse logistics supply chain. (Ron Cain, TMSi Logistics, RLmagazine)

1. 4 Industry BackgroundReverse logistics has not received much attention in past, 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. What many fail to realize is that the average manufacturer will spend 9% to 15% of total revenue on returns, according to a 2010 Aberdeen Group study. They are often unaware of the impact returns management can have on their customers, their resources or their bottom line. In fact, improving reverse logistics can help company increase revenue up to 5% of total sales. It is said that if reverse logistics function are ignored it can cost companies in millions due profit losses that may arise due to damaged customer relationships and external liabilities that could have an enormous impact on their business. However, reverse logistics can enable organizations to find hidden profits, improve customer satisfaction and minimize liabilities. (Curtis Greve and Jerry Davis)Returns were considered to be an ugly secret, shrouded in mystery, relegated to the back pages of ledgers and dark shadows of the warehouse. Today Reverse Logistics is considered as a critical process that connects retail, refurbishing, remarketing, recycling, and recognizable revenue. Managing returns through reverse logistics is considered to be one of the biggest opportunities to avoid cost. (John Mehrmann, RL magazine)1. 41 Size of Reverse Logistics GloballyA conservative estimate is that reverse logistics accounts for a significant portion of U. S. logistics costs. Logistics costs are estimated to account for approximately 10. 7 percent of the U. S. economy. However, the exact amount of reverse logistics activity is difficult to determine because most companies do not know how large these are. Of the firms included in this research, reverse logistics costs accounted for approximately four percent of their total logistics costs. Applying this mean percentage to Gross Domestic product (GDP), reverse logistics costs are estimated to be approximately a half percent of the total U. S. GDP. Delaney estimates that logistics costs accounted for $862 billion in 1997. The estimate of this research, based on the respondent sample, is that reverse logistics costs amounted to approximately $35 billion in 1997. The magnitude and impact of reverse logistics varies by industry and channel position. It also varies depending on the firm’s channel choice. However, it is clear that the overall amount of reverse logistics activities in the economy is large and still growing. Within specific Industries, reverse logistics activities can be critical for the firm. Generally, in firms where the value of the product is largest, or where the return rate is greatest, much more effort has been spent in improving return processes. The auto parts industry is a good example. The remanufactured auto parts market is estimated (by the Auto Parts Remanufacturers Association) to be $36 billion. For example, 90 to 95 percent of all starters and alternators sold for replacement are remanufactured. By one conservative estimate, there are currently 12, 000 automobile dismantlers and remanufacturers operating in the United States. Rebuilding and remanufacturing conserves a considerable amount of resources. According to the ARPA, about 50 percent of the original starter is recovered in the rebuilding process. This may result in saving several million gallons of crude oil, steel, and other metals. ARPA estimates that raw materials saved by remanufacturing worldwide would fill 155, 000 railroad cars annually. That many rail cars would make a train over 1, 100 miles long. (Rogers and Tibben-Lembke)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. Throughout Europe, legislation is being passed, placing conditions on what can and cannot be done with a product that has reached the end of its life. For example, a number of European countries have passed legislation requiring producers to collect their products at the end of life. Many believe that it is only a matter of time before similar measures appear in the U. S. (Rogers and Tibben-Lembke)1. 42 Reverse Logistics in IndiaThe reverse logistics market in India is valued at INR 646. 38 bn in 2009 and is expected to grow rapidly in the future. In India although reverse logistics is a new concept it is gaining increasing attention and awareness in the supply chain community, both from practitioners and researchers point of view due to a number of reasons. Competition and marketing motives, direct economic motives and concerns with the environment are some of the important reasons. Even though India is well endowed with both technology and human resources, the concept of Reverse logistics is yet not widely accepted because of lot many barriers for its successful implementation. Some of these barriers are lack of systems, management inattention, financial resources, personal resources, company policies. Reverse Logistics issues are mainly regulatory-driven in Europe; profit-driven in North America and in incipient stage in other parts of the world, including India, where both consumer awareness and globalization are likely to lead to greater economic, consumer and regulatory pressures in the coming future. Society in general and particularly in Indian context is still price sensitive and to a little extent quality sensitive (quality for a given price) but not environment sensitive in its buying and promotion behavior. Lack of incentives/disincentives from regulatory authorities and lack of pressure from prospective customers and consumers on the manufacturers/service providers is inhibiting these initiatives in India. Therefore, RL has not received the desired attention and is generally carried out by the unorganized sector for some recyclable materials such as paper and aluminum. (Srivastava & Srivastava)To give an idea about the volumes, in the USA and western countries, the return rate of defective products is about 10 per cent, while in India, it is about five per cent overall. Even in consumer electronics, it is just about the same. So when these five items out of the 100 items need to be sent back, the volumes are not sufficient for most companies to justify putting up a very robust process to manage these returns. RL shall become vital as service management activities and take-back for products such as automobiles, refrigerators and other white goods, cellular handsets, lead-acid batteries, televisions, personal computers (PCs), etc. increase in future. A well-managed RL network cannot only provide important cost savings in procurement, recovery, disposal, inventory holding and transportation but also help in customer retention. Since RL operations and the supply chains they support are significantly more complex than traditional manufacturing supply chains, an organization that succeeds in meeting the challenges presents a formidable advantage not easily replicable by its competitors. The de-regulation of the Indian economy in the 1990s has attracted global players and has unleashed a new competitive spirit. However, a distinctive characteristic of the Indian economic environment is the inadequacy of basic inputs normally required to support organized economic activity. The UPS Asia Business Monitor Survey, 2004 (Available at: http://www. etintelligence. com/ ) finds that besides the lack of government support, poor logistics infrastructure and poor supply chain efficiency are the major obstacles to competitiveness in India. The Indian infrastructure comprising roads, railways, airports, seaports, ICT and energy production is poorer as compared to many other countries. (Srivastava)Reverse logistics did not catch much attention of the business world until the last decade. In early 90s, the Council of Logistics Management published two studies on reverse logistics. The first was written by J. R. Stock (1998) which systematically reported on how to set up and how to operate reverse logistics programs, his book also tried to discover the potential of reverse logistics. Rogers & Tibben-Lembke (1999) then presented an extensive collection of various reverse logistics business statistics data categorized by industry types. His data showed that the magazine publishing industry has the highest reported returns (50%). Magazines have a short shelf life; if they can’t be sold out close to the publication/cover date, they have to be returned or disposed. Rogers & Tibben-Lembke (1999) in his study also reported that other industries with high average returns include book publishers (20–30%), catalog retailers (18–35%), and greeting cards companies (20–30%). Besides above mentioned studies, some other articles focus the optimization and management of reverse logistics appeared on the characteristics of reverse logistics for remanufacturing systems. Although the Council of Logistics Management has already given a definition to reverse logistics, reverse logistics has been evolving since the date it was recognized, as a result, its real definition vary largely on what company or industry segment intended to explain it (Krumwiede & Sheu, 2002). Dowlatshahi (2000) described a holistic view of reverse logistics with 11 factors; he further divided these factors into two main categories: strategic factors and operational factors. Strategic factors consist of strategic costs, overall quality, customer service, environmental concerns, and legislative concerns. The operational factors consist of cost-benefit analysis, transportation, warehousing, supply management, remanufacturing and recycling, and packaging (Dowlatshahi, 2000). 1. 5 Subject backgroundReverse logistics has been around us for a long time. According to Walden (2005), reverse logistics‟ history can find its root from the American Civil War. And there would be other literature that record reverse logistics activities even earlier than American Civil War, but these activities were not systematically recorded or widely recognized. In order to better understand reverse logistics there are some important events that needs attention in the reverse logistics history. At the end of the American Civil War, General William T. Sherman realized that the nature of his armies' campaign would be a matter of supply and mobility and that his operations through hostile territory would be difficult (Overby, 1992). He faced intricate task of supplying his soldiers on the march. Today’s retail returns issues find their roots in the customer service policy of Montgomery Ward’s (Walden, 2005). Montgomery Ward’s is an American furniture shop established since 1872 their policy was if the customer is not 100% satisfied, they could bring it back for a full refund. 1. 51 How is Reverse Logistics different from forward logistics? Reverse logistics is different from traditional logistics or forward logistics, as forward logistics is mainly concerned with movement of goods from a production line through a distribution center and retail outlets and finally to the end user which a planned activity. Reverse Logistics in contrast follows a different flow, the main difference is that reverse logistics is not a planned activity like the forward logistics but it is in response to actions by consumers or downstream channel members. 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.(Rogers and Tibben-Lembke)Typical reverse logistics activities would be the processes a company uses to collect used, damaged, unwanted, or outdated products, as well as packaging and shipping materials from the end-user or the reseller. Once a product has been returned to a company, the firm has many disposal options from which to choose. If the product can be returned to the supplier for a full refund, the firm may choose this option first. If the product has not been used, it may be resold to a different customer, or it may be sold through an outlet store. If it is not of sufficient quality to be sold through either of these options, it may be sold to a salvage company that will export the product to a foreign market. If the product cannot be sold " as is," or if the firm can significantly increase the selling price by reconditioning, refurbishing or remanufacturing the product, the firm may perform these activities before selling the product. If theFirm does not perform these activities in-house, a third party firm may be contracted, or the product can be sold outright to a reconditioning/remanufacturing/refurbishing firm. 1. 52 The process flow of reverse LogisticsIt may so happen that the products that are bought by consumers may suffer transportation damage or it could come with a factory defect or there is a possibility of some accessories going missing or also in some cases, the consumer might not like it. That is when the products have to traverse the return journey wherein reverse logistics is important. In the case of a defective product it will be first sent to the company’s channel of disposition and then the company will arrange for a pick-up and send it to the nearest centre where it is quickly repaired. After Repairs the product would go for an inspection check after which it be certified as a refurbished product and it moves to either the online or the offline store. The products are then sold to the customers stating very clearly that they are refurbished products. A simplified schematic of a generic reverse supply chain for commercial product returns is shown in figure below. Customers return products to the reseller (product acquisition), from where they are shipped to the returns evaluation location (reverse logistics) for credit issuance and product disposition (inspection and disposition). Diagnostic tests are performed to determine what disposal action recovers the most value from the returned product. Products are remanufactured, Refurbished and serviced if deemed cost effective; some firms may simply treat all product returns as defective. Some returned products may be new and never used; these products are returned to the forward distribution channel. Products not reused, or remanufactured are sold for scrap or recycling, usually after physically destroying the product. End-of-life product returns are remanufactured or recycled depending on their condition and are sent back to the manufacturers and recycled products are used as raw materials. After remanufactured products are sent back to the manufacturers, some are sold in secondary markets for additional revenue, often to a marketing segment unwilling or unable to purchase a new product. Returns may also be used as spare parts for warranty claims to reduce the cost of providing these services for customers.

## Figure 1. 53

http://www. emeraldinsight. com/content\_images/fig/1770140607001. png1. 6 Some Industries where reverse logistics activities are common(1) Retail Industry (E-Commerce): As more and more major online retailers are offering free and convenient returns, the experience is creating return customers. Online retailers like Amazon, Flipcart, Yepme, Bestbuy and many more make it easy for customers to return items with pre-printed return labels. These labels can be attached to the original package and sent back to the manufacturer with little or no input needed from the customers — and the shipping is sometimes entirely free of charge for the shopper. Reverse logistics in an e-tail environment is a challenging part of the business. Customer service is essential to getting and keeping our on-line customers. The handling of customer product returns is an essential component of customer service program(2) Automobile Industry: With expected sales of ~2. 5 million passenger vehicles in FY11e, India’s passenger vehicle market rank as world’s seventh largest; larger than markets like United Kingdom, France and Spain by volume. Strong economic growth, rising disposable income levels, favorable demographics, easy financing environment and relatively low car penetration have been the prominent growth drivers for the industry. In 2009, it surpassed Japan to become the largest small-car market in the world, accounting for the sale of around 900, 000 small-cars, as compared to 700, 000 sold in Japan. India is also now the second-largest exporter of small cars, behind only Japan. In FY10, India shipped out nearly 450, 000 vehicles, registering a CAGR (%) of 26% between FY06-10. Exports now form a considerable part of the Indian industry, accounting for 18. 6% of the total PVs sold in FY10, compared to 7. 3% in FY02, with small cars comprising over 90% of total passenger car exports in FY10. ICRAVolume automobile market can be segmented into two distinct customer bases: OEM (original equipment manufacturers) and the aftermarket. The manufacturers and dealers that make up the OEM market focus primarily on vehicle assembly and marketing. The Automobile Aftermarket industry Association, estimates that industry returns range from 15 to 20% of sales. These returns fall into two categories -- expected (or planned) and unexpected returns. Returns must be made to allow remanufacturing. In addition to the expected returns associated with remanufacturing, there are also unexpected returns associated with poor sales, incorrect shipments, etc. (Daugherty, Richey & Hudgens, IJLM)(3) Telecommunications EquipmentAs the telecommunications and wireless landscape constantly evolves and new technologies rapidly emerge, companies in this industry are challenged with declining customer retention rates, falling asset recovery rates, and increasing inventory carrying costs. In this industry (as well as in high tech, consumer goods, and medical device manufacturing) an 80% to 85% asset recovery rate is common. Manufacturers that fail to recover valuable products and parts from the field must write off the value of these assets against the business. And assets that do not get recovered cannot be refurbished and placed back into inventory — thereby impacting the amount of value that manufacturers are able to reclaim from damaged products and parts. In fact, nearly one-third of polled companies reported that asset recovery was a top challenge for their firms — and nearly 30% of telecom and utilities firms are currently outsourcing this aspect of reverse logistics. The mobile phone market is in turmoil. After years of continuous growth, the global economic downturn has had a marked effect on sales in both developing and mature markets. With major pressure on revenue and margin, service organizations are being forced to cut costs rapidly, with the danger that they will do so at the detriment of customer service, increasingly the key market differentiator. The device landscape has changed markedly with the move to smart-phones and with this a rapid change in the manufacturer landscape. Five years ago, after sales was viewed by many operators & retailers as an unfortunate by product and cost of doing business. Previously ignored and rarely truly understood and managed, it is essential today that operators & retailers start to see their after sales operations as both a considerable cost risk and a potential customer winner. (David Cope, MGH Consulting)(4) Medical Device ManufacturersThe Indian Pharmaceutical Industry today is in the front rank of India’s science-based industries With wide ranging capabilities in the complex field of drug manufacture and technology. A highly organized sector, the Indian Pharma Industry is estimated to be worth $ 4. 5 billion, growing at about 8 to 9 percent annually. The Indian Pharmaceutical sector is highly fragmented with more than 20, 000 registered units. It has expanded drastically in the last two decades. The leading 250 pharmaceutical companies control 70% of the market with market leader holding nearly 7% of the market share. Due to the criticality of the equipment they service, medical device manufacturers must ensure that machine downtime is minimal. As such, these firms are asked with managing inventory levels effectively to ensure optimum availability of service parts as well as efficiently triaging returns and rapidly putting repaired parts back in the supply chain.

## Importance of reverse logistics for the pharmaceutical industry

According to Industry Week, nearly 3 percent of medications sold over-the-counter expire before they are used, and studies have shown that nearly 40 percent of American households taking prescription medication have expired drugs. Without proper waste management, these substances may sometimes end up in sewers, eventually leading to the water supply. Improperly disposed medication may also decompose in landfills, essentially posing a health risk to people, wildlife and the environment. It is increasingly important for pharmaceutical companies and retailers who sell these medications to have a pharmaceutical returns solution in place for this. According to the Healthcare Distribution Management Association, through the process of reverse supply chain logistics, roughly 4 percent of products leaving pharmaceutical warehouses are returned for proper disposal or redistribution, the source continued. As reported by Reverse Logistics Magazine, additional benefits of reverse logistics include added security - by following proper rules and regulations and ensuring the medications are out of harm's way - and decreasing waste removal costs. Reverse logistics is also essential for any pharmaceutical supply chain, as counterfeiting and lost or stolen products continue to be a major threat and safety concern. Reverse logistics, which was once thought to be a very minor piece of the supply chain, has now evolved and is considered a significant part of managing the product flow for major pharmaceutical companies. http://www. genco. com/resources/logistics-article. php? aid= 800740301

## Drivers for RL

Customer Support: Of course this is the major driver behind any firm or organization, satisfying the needs of those who seek their business. There is no real surprise in this outcome. Customers are the driving force behind any firm. Without the customer the organization has no purpose or need to exist. The customer is the driver of demand on the organization and this means that the firm must be able to adapt to the needs of the customer, especially if the organization wants to remain competitive. In today’s marketplace, if one firm cannot meet the customer’s demands, there is likely another one lined up to fill the need. The need to satisfy the needs of the customer and measuring customer satisfaction has been thoroughly studied in the logistics and supply chain spectrum, from traditional manufacturer-customer relationships to e-commerce types of relationships. The importance of the customer cannot be understated, it is the reason the company is in business. Being able to efficiently and effectively meet customer demands is essential. To do this, organizations need to be able to measure and quantify how they are performing and meeting their various customer’s needs. Developing and utilizing proper metrics for the information requirements needed to make sound decisions is essential. Very little research has been accomplished regarding the proper metrics and measures of reverse logistics performance. Also, research is lacking in determining what the key factors customers desire in a reverse logistics process. Determining what the customer thinks is important can be key to aligning your processes to meet that expectation, which may be different than what the organization initially planned.

## 1. 7 Challenges that are involved in reverse logistics for consumer electronics?

Highly fragmented logistics and transportation industry in India is the biggest problem in carrying out reverse logistics. Also, there are different rules in different states. These are the two big challenges that we have faced. Since there was no organized process, even within companies there was a lot of corruption in this process. SourceThe biggest challenge faced was educating companies on the impact of reverse logistics on their profitability. Lots of time needs to be spent in telling people that here is something that is really impacting your bottom-line, customer service and productivity that you need to seriously look at. It would take some time to do so because there is no single owner of reverse supply chain in companies. But slowly, companies are realizing the importance of reverse logistics. Source

## 1. Reduce Returns

The primary focus for most returns handling departments was on managing warranty and defect returns. While these defective returns still remain, many Reverse Logistics managers have now also been tasked with the important task of handling of retail returns which are typically higher in volume and for some industries like electronics and consumer goods, the returned products are in valuable resalable condition with a NTF (No Trouble Found) rate that can reach 80% or 90%. For 2010, retailers and manufacturers are continuing to work together much more cooperatively to reduce store returns by finding ways to improve the customer experience, both before making a purchase and after opening the box at home, with a goal to reduce the number of products returned at the store level. Manufacturers are also working cooperatively with retailers to negotiate an allowance in lieu of returns. This reduces handling, turnaround time and logistics costs. Additionally, this creates an opportunity for third parties who specialize in the resale of open box items that will result in higher value recapture.

## 2. Increase Value Recovery

As the market has been maturing, there are a lot of sophisticated partners, options and channel alternatives to resell processed or unprocessed returned goods. More manufacturers are realizing that a huge contributing factor in recapturing a higher value is the ability to process and sell the returned goods quickly. More emphasis on disposing of the goods locally or working with the local retailer who has the returned goods, can help speed the value recovery and increase the amount of cash recaptured (not to mention the reduction in logistics costs and the related transportation carbon footprint). Speed and working locally can net companies a higher profit and provide CFOs with a few pleasant surprises for a change.

## 3. Global Reverse Logistics Processing

Many manufacturers are working hard to roll out their Reverse Logistics programs to their worldwide operations. These initiatives are often providing significant challenges. Many of the global regions are much less capable in key reverse logistics areas such as logistics and technology. The result is large increases in cycle time due to issues such as slower transport, a need to consolidate to reduce higher transportation costs, or slower end to end processing. Other challenge factors include customs, inventory overstock of both defective and replacement items, and the need to understand or report to meet local regulatory requirements.

## 4. Recycling and Sustainability

Corporate initiatives for recycling and sustainability are leading to new requirements and actions for the Reverse Logistics teams. Challenges will be finding recycling partners who can recover value out of product and help the manufacturers reduce the corporate impact or footprint of handling, logistics and separation. Additionally, Reverse Logistics managers need to ensure their recycling efforts are meeting a myriad of rapidly changing laws and regulations around the world.

## 5. Reverse Logistics Cost Control

The recession has put downward pressure on manufacturer’s margins. However, Reverse Logistics costs are often not easy to reduce. Many manufacturers are seeking opportunities to move portions of their reverse logistics costs to less expensive repair providers or regions. Additionally, with the volume reductions resulting from the recession, many Reverse Logistics leaders are having difficulty maintaining the solid processes and partner networks that were developed prior to the recession. The challenge will be to carefully manage the infrastructure that was designed for pre-recession volumes, without crippling their reverse supply chain. In the face of the challenges outlined above, this year promises to be a strong year for Reverse Logistics teams. Senior corporate executives are really starting to understanding of the value opportunity available from a well managed reverse logistics operation. Good technology and software is available to process, capture data, measure, monitor, and manage more effective reverse logistics processes. And lastly as the industry matures, there are a lot of very talented reverse logistics professionals available to lead, manage, service or advise on significant improvements for your operations and for our industry. reverselogisticsprofessional. com

## Returns Preparation

Preparing and equipping your customers to handle their returns is one of the areas with the biggest payoff for your e-Commerce returns processing. There is a conflict or trade-off here. The easier you make it for your customers to return goods, the more goods you will have returned. It is unlikely your CEO wants to see an increase in your returns volume. However, as the statistics outlined above, poor returns policies often scare away buyers. (Source: RL\_Professional Thesis)

## Literature Review

It is believed according to many authors that the practice of reverse Logistics has expanded over the last decade due to increased awareness about the potential economic, environmental and social benefits of product, packaging and material recovery. Reverse Logistics involves material management and physical distribution at all levels of supply chain. These levels are included somewhere within the supply chain subcategories of design, manufacture, distribution and recovery. Advancement of reverse logistics (RL) concepts and practices are more relevant now than ever before due to Green Energy concerns economic, regulatory and consumer pressure. It has also gained momentum because of fierce global competitiveness, heightened customer expectations, pressures on profitability and superior supply chain performance. The growing concerns about environmental issues, sustainable development and legal regulations have made organizations more responsive to RL. Increased competition, growing markets and a large base of product users in developing countries imply that buyers are getting more power in the supply chain even in these countries. Thus, managing product returns in an effective and cost-efficient manner is of increasing interest in business as well as in research. It leads to profits and at the same time increased customer service levels and higher customer retention. (Srivastava & Srivastava)In the first major study of reverse logistics published by the council of Logistics management (Kopicki, 1993) focused on adding " substitute" to this framework to give – Reduce, substitute, reuse and recycle. The council of Logistics management published another review of reverse logistics programs which identifies some activities which are specific to reverse logistics, which is also known as the six R’s (Stock 1998)One of the main activities in reverse logistics is the collection of the products to be recovered and the redistribution of the processed goods. Although this problem resembles the standard forward distribution problem, there are also some differences. There are usually many points from which goods need to be collected, the product packaging is generally problematic, cooperation of the sender is much more needed and the goods tend to have a low value. As reverse logistics is quite new, in many cases new networks need to be constructed. Major issues in creating new networks are the determination of the number of layers in the network, the number and location of depots or intermediary points, the use of drop points in the collection, the issue of integrating the reverse chain with the forward chain and finally the financing of the network. (Stock 1998)The products or the items that are returned can be classified based on the reasons for which they are returned. Some of the common reasons are due to commercial returns, service returns, end-of-use returns and end-of-life returns.

## Commercial returns

Commercial returns occur in a wholesaler - retailer or in a retailer - customer setting, where the buyer has a right to return the product, usually within a certain period. The reason behind the return option differs between the cases. In the first setting, the retailer faces the problem of how much he might sell and giving him a buy-back option lowers this risk for him. The returns are likely to be in bulk at the end of the season. In the second case the reason for the return option is that the buyer might not be sure whether the product (or the amount of products) really meets his/her requirements.

## Service return cases

Service returns generally arise due three reasons. First of all the products themselves may be brought or sent to a center for repair. If the repair is successful, they are brought back, else a new product or system needs to be bought and the failed one is discarded. Secondly, if one needs a continuous functioning of the product or system, one may directly replace the system or part by a spare one. The part will be repaired later, after which it will enter the inventory of spare systems or parts. Finally, in order for such a replacement scheme to be successful, service engineers need to have replacement parts with them to do the repair. This requires a sophisticated logistic system for ordering and delivering the parts (frequently using in night services). Beforehand however, it is not always clear which new parts are needed and as a result often the engineers order more parts than needed. The leftover parts then need to be returned to the parts warehouse. This is the third stream of returns. (Stock 1998)

## End- of-use returns cases

This type of returns is basically concerned with items or products that are temporarily needed by the consumer. The product may either be leased, rented or temporary given into the authority of the recipient. The latter is the case with distribution items, that is, products like containers, bottles, railcars and crates, which are used for distribution purposes. The main issue that can arise due these kinds of returns is that there can be a mismatch between returns and demands in time and place. How much are needed at which location and how much should be relocated within a certain time interval. Most items issued come back, but it is not always known when. (Stock 1998)

## End-of-life returns cases

The difference between end-of-life and end-of-use may seem to be smaller but it not the case. End-of-life refers to the intension of recovering valuable parts only whereas in the end-of-use case similar products were made with the returned products. Products and systems not only age intrinsically, but also because their environment puts higher requirements on them. This can be seen in computers and electronic equipment. End-of-life returns are products that are aged and that their functionality (if available) is far below actual standards. Yet they may still function satisfactorily and hence they can be used as source for spare parts for similar systems. One study by an expert describes the dismantling of returned, end-of-life computers into useable spare parts with IBM. This source nicely combines with return obligations and it s a cheap source for spare parts for systems on which one does not want to spend too much. The problems identified were a lack of knowledge of what actually was in the computers as well as an insufficient information system to handle the operations. According to Klausner &Hendrickson product take-backs of consumer products is generally expensive, especially reverse logistics. Usually in take-back programs the cost exceeds revenues for recycling the products itself. The best way to make profits is to combine proﬁtable remanufacturing and unproﬁtable materials recycling. The Proﬁt from remanufacturing could cover the loss from recycling as well as the costs of reverse logistics, allowing the manufacturer a Proﬁt. Since Remanufacturing requires a continuous ﬂow of returned postconsumer products. Firms could control the ﬂow of returned products, by buying back end-of-life products. (Klausner & Hendrickson)According to Dennis and Chwen Sheu the practice of reverse logistics involves three stages each stage has a set of people or organizations involved with the reverse logistics process, each having their own special interests. Stage 1: RetrievalThis stage is described as the process of collecting and removing goods from a customer. This stage is affected by the type of product picked up and who does the retrieval from the customer. There are several different operations of the retrieval process. These operations include: Store level returns retrievals—Store level returns are those returns that are retrieved from any type of store/outlet. This type of return is made up of product recalls, inventory returns, warranty returns, core returns, reusable containers, damaged goods, seasonal items, hazardous materials (HAZMAT) and stock adjustments. Consumer returns retrievals—Consumer returns are collected from the ultimate consumer. These returns include product recalls, warranty returns and damaged goods. Collection center retrievals— these retrievals involve product recalls, warranty returns, inventory returns, core returns, reusable container returns, damaged goods, seasonal items and hazardous materialsStage 2—TransportationThe second stage of the reverse logistics process is considered to be the actual movement of goods from one location back to another location. The transportation stage is extensively involved in all aspects of reverse logistics, since manufacturers are often unwilling to be the final destination of their returned goods. Instead, they prefer to have an outside source or third party logistics company dispose of these goods. As a result, transportation companies are often left holding the goods waiting for disposition information. These companies are recognizing the profitable situation of handling otherwise unwanted returned goods. Stage 3—DispositionThe final process involves decisions and actions associated with the fate of a product once a customer demonstrates product dissatisfaction. There are two types of disposition, on-site and off-site. Onsite disposition involves activities that take place at the customer’s facility to handle issues related to product concerns. The product may be repaired or replaced on-site. Off-site disposition involves shipping the defective product to a different facility for repair, replacement, or disposal. Reverse Logistics is one of the five processes in Reverse supply chain as mentioned by C. Prahinski, C. Kocabasoglu, the five processes are organized sequentially as product acquisition, reverse logistics, inspection and disposition, reconditioning, and distribution and sales.

## Reasons for Returns

In a survey, customers were asked why they returned their productsEighty-nine percent of online buyers say return policies influence their decision to shop with an e-retailer •The three leading products returned were clothing (27 percent), computer software (20 percent) and books (15 percent). Source: RLprofessional

## 2. 1 How does effective reverse logistics reduce costs or increase profits?

How reverse logistics increases profits for the organization is explained by Joseph & Daniel. According to their study the flow of product returns is becoming a significant concern for many manufacturers. In many cases the Cost efficient supply chains are not necessarily fast; and, as a result, returns undergo a lengthy delay until they are re–used, either as–is or remanufactured. The longer it takes to retrieve a returned product, the lower the likelihood of economically viable reuse options. Their research suggests that significant monetary values can be gained by redesigning the reverse supply chain to be faster and reduce costly time delays. These monetary values are higher in fast clock- speed industries such as consumer electronics, where the average life cycle of a personal computer (PC) is expressed in months, as opposed to a slow clock speed industry such as power tools, with life cycles of around six years. The research highlights the process of handling returns for ABC Company in USA with volumes over 100, 000 units of products such as PCs and computer peripherals are returned every month. The company estimates the annual total cost of product returns to be between 2 and 4 percent of total outbound sales, where the cost of product returns is defined as the value of the return plus all reverse logistics costs minus revenue recovered from the product. The study highlights that the flow of returned products represents a sizeable asset stream for many companies, but much of that asset value is lost in the reverse supply chain, For $1000 of product returns nearly half the asset value (> 45%) is lost in the return stream. Most of the loss in asset value falls into two categories: the returned product must be downgraded to a lower-valued product––a product once valued as new must be remanufactured, salvaged for parts, or simply scrapped as not repairable or obsolete; or, the value of the product decreases with time as it moves through the pipeline to its ultimate disposition. Of these two loss categories, much of the first is unavoidable because only a fraction of returns can be restocked as new items (20% in the example). However, the loss due to time delays represents a significant opportunity for asset recovery? These losses include not only the deterioration in value of a returned product with time, but also the force downgrading of product due to obsolescence. (Joseph & Daniel)20% new restock product ($190)Loss in Asset Value > 45% Value15% Scrap ($0)Flow of Returns($1000)10% Salvaged Components10%" Low Touch" Refurbished ($ 75)45% Repair &Remanufacture ($250)According to Joseph & Daniel the other main challenge while increasing profits or reducing losses is the effect of time delays and product downgrading on asset loss in a return stream. The upper line in the Figure below represents the declining value over time for a new product. The lower line indicates the declining value over time for a remanufactured version of the same product. In the example, only 20% of product returns would remain on the upper curve, losing value due to time delays; 80% of the returns would drop to lower values and the product that is ultimately scrapped would fall to values near zero. Products near the end of their life cycle will show sharp increases in the rate of value deterioration. Joseph & Daniel represented time value of returns in percentage terms to facilitate comparisons across products and product categories with different unit costs. The research carried out by them shows that the time value of returned products varies widely across industries and product categories. Time-sensitive, consumer electronics products such as PCs can lose value at rates in excess of 1% per week, and the rate increases as the product nears the end of its life cycle. They highlight the fact that, at these rates, returned products can lose up to 10-20% of their value simply due to time delays in the evaluation and disposition process.

## Value of Returned

## Product ($)

Product ReturnProcessing delay$ Cost of delayNew ProductReturn stockRemanufacturesValue after RemanufacturingT T TimeStart Shipping Begin ProductPhase outThe other factor mentioned by Joseph & Daniel in their study in order to minimize losses in the asset value is marginal value of time. Because products are broadly classified into functional and innovative, roughly corresponding to products with low and high marginal values of time respectively. Innovative, short life-cycle products such as laptop computers have a high marginal value of time, whereas products such as power tools or disposable cameras are said to be less time-sensitive and are considered have low marginal values of time. (Fisher’s strategic model)Therefore when products classified by time value, Joseph & Daniel consider using Fishers supply chain structure to maximize the value of recovered assets in the return stream. And since the objective is to maximize the net value of recovered assets, the cost of managing the reverse supply chain must also be considered. To use Fisher’s terminology, efficient supply chains sacrifice speed for cost efficiencies and, in a responsive chain, speed is usually achieved at higher cost. The study explains how reverse supply chain design is a tradeoff between speed and cost efficiency. For products with high marginal time values (such as laptop computers), the high cost of time delays tips the tradeoff toward a responsive chain. For products with low marginal time values, delays are less costly and cost efficiency is a more appropriate objective. They also suggest a supply chain design structure similar to the one Fisher proposes for forward supply chains; it is displayed as a two-dimensional matrix below. (Joseph & Daniel, RSC for comm. returns)Time-Based Reverse Supply Chain Design Strategy

## Efficient Chain Responsive Chain

MatchNo MatchNo MatchMatch

## Low MVT Product

## High MVT Product,

" Reverse Logistics is a process whereby companies can become more environmentally efficient through recycling, reusing and reducing the amount of materials used. Viewed narrowly, it can be thought of as the reverse distribution of materials among channel members. A more holistic view of Reverse Logistics includes the reduction of materials in the forward system in such a way that fewer materials flow back, reuse of materials is possible and recycling is facilitated". (Carter and Ellram, 1998,) The fact of reducing materials used in the processes according to some authors is (Rogers and Tibben-Lembke, 1998) considered as Green Logistics and not Reverse Logistics, although the same authors agree in that the bound line between both concepts is not always clear. On the other hand, Carter and Ellram seem to keep tight to the same channel in which the forward flow was generated, against the more broad view in which other companies outside the business chain could be favored from the returns flows. But at some point, preventing returns becomes more costly than it would be to handle them. Getting good at handling returns is the better option. It can lead to more sales because customers know they can return unwanted merchandise easily. It can also improve customer relationships across the supply chain, improve profits through reduced costs, and lead to greater efficiency and higher recovery rates for returns. Managing returns wisely means thinking about the returned goods not as costly mistakes but as products still waiting to be sold profitably-an opportunity to be exploited. (James Stock, Thomas Speh, and Herbert Shear, Many Happy Product Returns)

## 2. 2 How Reverse Logistic increases customer satisfaction?

Firstly to satisfy a customer Parasuraman identified the service quality gaps in satisfying the customer. Particularly relevant gaps in managing returns are the gap between customer expectations and customer perceptions of service quality, and the gap between customer expectations and managerial perceptions of those expectations. He further explains that the gaps in service quality lies in the retailers’ recent shift to more restrictive return policies and the customers’ perceptions of a business are based on past experiences, media promotions and word-of-mouth discussions. When the customer becomes aware of a more restrictive return policy, the policy shift could negatively inﬂuence their perceptions of service quality. Consequently, the changes in the policies are likely to widen the gap between customer expectations and their perceptions of the quality of the service. In addition, the more restrictive return policies could be due to managers’ lack of perception as to how their customers view return policies and how it inﬂuences their expectations, thus widening the gap between customer expectations and managers’ perceptions of those expectations. (A. Parasuraman, Valarie)

## Research Design

## 3. 1 Statement of the Problem

Many companies are not aware of the benefits on managing their returns, which could increase customer satisfaction. Companies have failed to understand the fact that for many products, a customer’s relationship with the product’s manufacturer does not end with product purchase. In fact, this relationship can be significantly influenced by the activities that occur during product returns, during the entire period of product ownership. After sales services through activities like customer support through training; product warranties; maintenance and repair; product upgrades; sales of complementary products; and product disposal will increase customer satisfaction and thereby increasing repeat purchases. Management of these service activities can form an important part of corporate strategy as well. A product that is returned for repair and maintenance represent important opportunities to create and strengthen customer loyalty and satisfaction. In general customer satisfaction can be increased by(a) Reducing the cycle time of customer receipt of the refund or exchange, and(b) Increasing the convenience of sending a return. A well-managed RL network cannot only provide important cost savings in procurement, recovery, disposal, inventory holding and transportation but also help in customer retention. Reverse logistics is often an overlooked process that can help companies Improve profit and reduce waste. Many a times reverse logistics activity has been neglected by managers and executives dealing with returns and is considered to be ugly and a costly process especially in India. Indian consumers to large extent are still price sensitive and to a little extent quality sensitive (quality for a given price) but not environment sensitive in its buying and promotion behavior. Reverse logistics activities are generally carried out by the unorganized sector for some recyclable materials such as paper and aluminum in India. (Srivastava & Srivastava)One of the factors that is contributing to this kind of thinking is the lack of government support, poor logistics infrastructure and poor supply chain efficiency and the Indian infrastructure comprising roads, railways, airports, seaports, ICT and energy production is poorer as compared to many other countries. And the fact that effectively managing the complex reverse logistics operations require considerable skill and integration which is lacking

## 3. 2 Need and importance of the Study

Sharma, Panda, and Sahu in their study pointed out that even though India is well endowed with both technology and human resources. The concept of Reverse logistics is yet not widely accepted because of lot many barriers for its successful implementation. Some of these barriers are lack of systems, management inattention, financial resources, personal resources, company policies. (S. K. Sharma, B. N. Panda, S. S. Mahapatra, and S. Sahu) Since reverse logistics activities are not that popular among Indian companies there is greater need to highlight its importance and the opportunities that it can generate in terms of profits and favorable customer experience. Reverse logistics can be used as strategic weaponCompanies today have started recognizing logistics capabilities as strategic. Gone are the days were the only strategic variables a firm was likely to emphasize were business functions, such as finance or marketing. For example: The case of McNeil laboratories division of Johnson & Johnson a few years ago. Secondly the goal of almost every business is to lock customers in so that they will not move to another supplier that is increase repeat purchases. 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. In order to make sure customer do not shift to another supplier companies make sure their customers are satisfied, which they consider is the most important asset. Part of satisfying customers involves taking back their unwanted products or products that the customers believe do not meet needs. So the competitive pressures have also made companies to take reverse logistics activities seriously. (Rogers and Tibben-Lembke)The study focuses on how reverse logistics can help retailers and wholesalers develop a strategic vision and it highlights the fact that if retailers and wholesalers do not have a strategic vision of reverse logistics today, it is likely that they will be in trouble tomorrow. High-return categories such as electronics can easily go out of business if they do not have a strong reverse logistics program. The two main areas the study focuses is, firstly on how reverse logistics can help a company distinguish itself from another firm by doing well for other people which would eventually be a result of good customer satisfaction and will show the company as Good corporate citizenship. Secondly the focus is on recapturing value and recovering assets which would increase the profits for the company. Firms that have begun asset recovery programs found that a surprisingly large portion of their bottom-line profits is derived from asset recovery programs. These programs add profit derived from materials that were previously discarded, which makes them essentially free. Since many companies have yet to recognize the strategic potential of efficient reverse logistics programs there is need to highlight its importance and the study aims to do so.

## 3. 3 Research Gap

Because the reverse logistics field is just in its infancy, there has not been a lot of academic research on this topic especially by Indian Authors. Practitioner related articles and process improvement guides have been at the forefront of informing firms how to be environmentally conscious, meet customer returns needs, and develop effective remanufacturing processes. Even though many manufacturer are working hard to roll out their Reverse Logistics programs to their worldwide operations not much of Indian operations are documented. These initiatives are often providing significant challenges in the Indian context. Many of the global regions including India are much less capable in key reverse logistics areas such as logistics and technology. The result is large increases in cycle time due to issues such as slower transport, a need to consolidate to reduce higher transportation costs, or slower end to end processing. Logistics costs are estimated to account for approximately 10. 7 percent of the U. S. economy. However, the exact amount of reverse logistics activity in India is difficult to determine because most companies do not know how large these are. Even though there some kind of a process that companies follow while managing returns it is not well structured and organized as in case of forward logistics. But money isn’t the only reason why companies should effectively manage their return supply chain. Companies sometimes fail to understand that they are only as good as the relationships they establish with their clients, and the management of customer returns is a significant contributor to the satisfaction of a company’s clientele. One frustrating experience with a poorly-handled reverse logistics process can result in the loss of a key client, which can significantly hurt a business’ bottom-line. The options that are available in Online-retail have also contributed to the increased awareness levels and highlighting the importance of reverse logistics. As more and more on-line vendors offer easy, no-fault returns, an ever-greater amount of merchandise ordered online will be sent back, potentially flooding a company’s reverse logistics supply chain. From the initial studies and through some of the visit to the companies I found out that there is a need for academics to gain a stronger and clearer understanding of the reverse logistics constructs, performance measures, and is some necessary levels of resource commitment required of logistics managers and top management within an organization. Customers are the driving force behind any firm especially in the online retail industry without the customer the organization has no purpose or need to exist. The customer is the driver of demand on the organization and this means that the firm must be able to adapt to the needs of the customer, especially if the organization wants to remain competitive. To do this, organizations need to be able to measure and quantify how they are performing and meeting their various customer’s needs. Developing and utilizing proper metrics for the information requirements needed to make sound decisions is essential. Very little research has been accomplished regarding the proper metrics and measures of reverse logistics performance. Also, research is lacking in determining what the key factors customers desire in a reverse logistics process. Determining what the customer thinks is important can be key to aligning your processes to meet that expectation, which may be different than what the organization initially planned. Therefore my research is aimed at studying thoroughly ways to satisfy the needs of the customer and measuring customer satisfaction. Other challenge factors include customs, inventory overstock of both defective and replacement items, and the need to understand or report to meet local regulatory requirements.

## 3. 3 Objectives of the Study

The objective of my research is to show that reverse logistics can enable organizations to, improve customer satisfaction and minimize liabilities and find hidden profits. And through my research prove that reverse logistics is a critical part of the supply chain that is worth developing. The main directions of research are determined bySearch of reasons and causal relations of Reverse logistics decisions making for customer satisfaction which can improve profits. Analysis what impacts Reverse logistics process decisions bring on the Retail and E-commerce Industry. What are the future challenges and opportunities for reverse logistics in India? To study the effect (1) Response Time, (2) return policy, (3) customer effort, and (4) Legal Disposal on customer satisfaction. To create awareness among the business world about Reverse logistics.

## 3. 4 Hypothesis/ Hypotheses

3. 41When a customer return products to the reseller, Diagnostic tests will determine what disposal action recovers the most value from the returned product. Products are remanufactured, Refurbished and serviced if deemed cost effective; some firms may simply treat all product returns as defective. Some returned products may be new and never used; these products are returned to the forward distribution channel. Products not reused, or remanufactured are sold for scrap or recycling, usually after physically destroying the product. End-of-life product returns are remanufactured or recycled depending on their condition and are sent back to the manufacturers and recycled products are used as raw materials. After remanufactured products are sent back to the manufacturers, some are sold in secondary markets for additional revenue, often to a marketing segment unwilling or unable to purchase a new product. Returns may also be used as spare parts for warranty claims to reduce the cost of providing these services for customers. The study is basically going to focus on how a company can make profits through remanufacturing, refurbishing and recycling a product that is returned by the consumer. The study is going to test whether reusing certain high value components from some products returned and remanufacturing or refurbishing a fraction of the return flow will increase profits or not and how the volume of products returned has an effect on the profits. The total profit of product take-back is the sum of the profit from remanufacturing plus the (Negative) profit from materials recycling minus the costs of reverse logisticsThe main focus is on how reverse logistics process is effective while managing returns and is the amount of money spent on managing this element justified. The hypothesis is based on studying the effects of efficient reverse logistics process and how it influences customer satisfaction. Many studies suggest that better reverse logistics would increase customer’s perception of firm’s service quality, which in turn would increase customer’s satisfaction to the firm. By carefully reviewing the literature, the following four factors that related to reverse logistics are believed to have relation with customer satisfaction and therefore are chosen to be studied in my thesis. These factors are: (1) Response Time, (2) return policy, (3) customer effort, and (4) Legal Disposal. These four factors are all considered contributing to the customer satisfaction. In the section below, these four factors will be reviewed thoroughly and the reason why they are relevant to customer satisfaction will be further explained. Response time is the time taken by the company to respond to a request by the customer to return a product. How quickly the company handles this process will have an impact on the minds of the customer. If the company has a standard operating procedure for reverse flow of goods it will clearly provide instructions to their customers clarifying queries like. How the product is to be shipped? Who pays for the shipping costs? Where to return the product? Therefore solving these queries will significantly reduce the response time. Return Policy: - With the advent of E-commerce and Online purchases many online retailers and manufacturers have a very flexible return policy. Liberal return policies are standard marketing practice at many firms. Customers are often allowed to return products for any reason, no questions asked. Retailers and manufacturers who clearly communicate their returns policy to their consumers provides a signal to consumers about the more intangible aspects of the product and service quality provided (Kirmani & Rao, 2000), this signal therefore could lead to the increase of customer loyalty and eventually increase customer satisfaction. (Padmanabhan & Png, 1995). Competition among companies has also made return policies more transparent and flexible and it is believed that a satisfied customer will grow to be a valuable asset to the company. Since many customers are not very comfortable buying online because of the risks associated with it they expect to receive a liberal return policy. Customer effort: Customer effort indicates the level of efforts that a customer must go through to physically return the product into reverse logistics process. Since, online shopping usually means more risks to take from the customer’s perspective, the chance that a customer is not satisfied with the product purchased online would be apparently higher than the product bought from a bricks-and-mortar store. If the customer received a product he/she does not satisfy with, the product will have a good chance to be returned and thus will be entering the return logistics flow. This study will focus on the type of effort and a certain level of preparation a customer must devote to get the product for return ready to be physically put into the retailer’s or manufacturer’s return system. It is expected that if more customer effort is needed to carry out the return process then it will lead to lower customer satisfaction with the retailer or the manufacturer. Legal Disposal: - Even though legal disposal of products is not greatly followed in India it an issues of much concern nowadays. As landfill fees increase, and options for disposal of hazardous material decrease, legally disposing of non-salvageable materials becomes more difficult. There would always be some percentage of product that would have reached their End-of-life or would be irreparable and these needs to be disposed legally and in way that would not harm the environment. So when a consumer returns such a product the ability of the company to dispose it in a safe way would have a positive effect in the behavior of the consumer and it will also make way to clean out customer inventories, so that those same customers can purchase more new products. These activities when taken care by the retailers and manufacturers will increase customer satisfaction. All these four factors mentioned above are believed to have an effect on customer satisfaction. H1: Reverse Logistics process can improve customer satisfaction

## 3. 5 Conceptual and Operational Definitions of Variables

Hypothesis 1 tests how Independent variables like (1) Response Time, (2) return policy, (3) customer effort, and (4) Legal Disposal will cause an effect in Customer satisfaction which is a dependent variable.

## 4. 6 Limitations of the Study

Firstly, Reverse logistics is highly industry-specific. Industry segments react differently with respect to the strategic allocation of resources and reverse logistics program development due to the special challenges and differences in operating characteristics across or between industry segments. Reverse logistics is often " tailored'' to fit industry/customer requirements. Secondly, purposive sample was used in this study, it is not realistic to expect every participant of the study has the same empirical background. For example, it is not certain that every participant had online shopping experiences. And similarly it is not possible that every single participant had return experiences on products bought from e-retailers. Furthermore, it is impossible for people to buy products from the same e-store and the products they bought would differ in type, price, and look, etc. These variations among the experiences of the participants could all contribute to the final results, but the direction of these contributions could be either positive or negative. Therefore, in order to get valid conclusion, there must be a way to control these contributing factors. For this reason creating various scenarios was believed to be a good solution which has some limiting factors as well.

## 6. 1 Summary of Finding

The aim of the study was to find how factors such as response Time, return policy, customer effort and Legal Disposal affect the levels of customer satisfaction in Retail and E-commerce Industry. Each of the four factors that contribute to customer satisfaction was tweaked in order to create a real life experience. And it was found that contributing factors (formalization, return policies, customer effort, and service recovery) had a definite positive relationship with customer satisfaction which in-turn will have an impact on the sales and profits for the organization. From the survey conducted it was seen that if return policies are more liberal and there is lesser effort required from the customer’s end they are more likely to buy products and more goods you will have returned. Also from the study it was found that poor returns policies often scare away buyers. In an E-commerce retail store product returns are unavoidable and can be considered as necessary evil. Managing returns is an essential component of your customer service program and keeping the customers satisfied at all times plays a key role in retaining your existing customers. From the companies visited it the conventional wisdom has been that over the last few years most companies have practiced reverse logistics primarily because of government regulation or pressure from environmental agencies, and not for economic gain. Thus the management is taking less interest thinking no-profit issue. Companies are more organized around the forward flow of goods, And it is understood that even thought there is no formal or structured reverse logistics operations incorporated within most of the companies there is fair idea among the middle level and senior managers, that having a proper reverse logistics channel will enable them to focus on the product returns and convert them into a opportunity to attract potential customers. .

## 6. 2 Implications

Customers are the driving force behind any firm especially in the online retail industry without the customer the organization has no purpose or need to exist. The customer is the driver of demand on the organization and this means that the firm must be able to adapt to the needs of the customer, especially if the organization wants to remain competitive. To do this, organizations need to be able to measure and quantify how they are performing and meeting their various customer’s needs. Therefore a satisfied customer means he/she will remain loyal to the company and buy more of that company’s products thereby increasing sales and profitability.

## 6. 3 Recommendations and suggestions

Based on the study I have come up with the following suggestions and recommendations concerning managing returns in a profitable way and making the customer feel satisfied during the return process.

## An Ideal Reverse Logistics Framework:

\* Satisfy the customer.\* Complete a Returns Management Authorization transaction (RMA) as quickly as possible for high customer satisfaction.\* Capture accurate customer and product data for processing, analysis and future prevention\* Provide real time visibility to the data for your teams and especially to your customer.\* Avoid receiving exceptions and processing issues that cause delays.\* Ensure RMAs get closed and customers have completed their return obligations\* Minimize cost of creating and processing RMAs (e. g. the use of self-service vs. call center)\* Integrated systems and automated processing.

## Reduce Reverse Logistics costs:

One of the ways to reduce reverse logistics cost is to reduce or slash unnecessary return of products from customers. It is seen that those companies that monitors their returns can save up to 15% to 30% in credit issuance by correcting the process. A smart reverse logistics system can prevent the cost of processing returns that are not actually the responsibility of the manufacturer and prevent useless transportation before it begins. Above all, keep the process simple and inexpensive for all involved." reverselogisticsprofessional. com

## Outsourcing Reverse Logistics operations

From the companies visited and going through some of the research article published it was seen that many e-Commerce companies do not view the handling and processing of returns as a core competency. A number of companies have outsourced partners in one or more of the key Reverse Logistics areas such as call center, returned goods processing and asset disposition. Outsourcing some of the reverse logistics functions is a better option for companies that do not have huge volumes of returns, as setting up a reverse logistics operations is very costly and requires huge manpower. And also it is important to understand the processes you need before you outsource, so you can define what needs to be done, how it needs to be done and how to measure success so as to enable the company to effectively choose which partner can be the best fit.

## The philosophy of Lean Six Sigma to assist reverse logistics solutions:

As Lean Six Sigma is now said to be as one of the best ways to improve business performance across any sector. This strategy can be used to increase efficiency by eliminating avoidable errors that waste time, energy and resources in the returns management process. Recent studies conducted by the American College of Healthcare Executives and the American Society for Quality found that nearly 40 to 50 percent of organizations in the healthcare industry were able to decrease costs, increase quality and eliminate waste by using the Six Sigma strategy. A reverse logistics solution that emphasizes the Six Sigma policy may cut overhead costs associated with quality control and error reduction. This could allow businesses to reinvest that capital in other urgent areas of business such as customer satisfaction and retention across all industries. Genco, Becker Hospital Reviewreverselogisticsprofessional. com

## Use Technology to Achieve Speed at Lower Cost—

To reduce the cost of valuating a returned product’s condition, evaluation is often conducted at a centralized location, but centralization usually means longer delays. If the product evaluation can be simplified sufficiently to be carried out at the point of customer return, then the need for a centralized evaluation process is reduced and a decentralized supply chain can become attractive even for a low time-value product.

## 6. 4 Conclusion

From the chapters discussed above the opportunities and the complexities of reverse logistics in India in the E-commerce industry has been analyzed. And review of many articles, websites and Journals has given a clear idea of the process of handling returns, and how efficiently it has to be carried out in order to satisfy your existing customers, retain them and also attract new customers. Moreover I realized managing returns not only makes customers happy but also increases profits for the organization. In order to effectively deal with product returns you need to ensure you are addressing not only the needs of your customers, but also the needs of your company to ensure you are minimizing the cost and impact of the returns on your company since they can have a very significant impact on your profits. (Source: RLprofessional)As more and more senior corporate executives are really starting to understanding of the value opportunity available from a well managed reverse logistics operation. Good technology and software is available to process, capture data, measure, monitor, and manage more effective reverse logistics processes. And lastly as the industry matures, there are a lot of very talented reverse logistics professionals available to lead, manage, service or advise on significant improvements for our industries.