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**CHAPTER – I**

**INTRODUCTION**

**\**

**1.1 INTRODUCTION ABOUT THE TOPIC**

The topic of the study is “A STUDY ON REVERSE LOGISTICS SYSTEM IN REFERENCE WITH KERALA ROADWAYS (P) LTD”. As the topic states, this study is based on reverse logistics system of Kerala Roadways. This study is conducted to know about reverse logic system and process. The study describes and concludes the reasons, facts, steps, and settlements about reverse logistics in KRS. Reverse Logistics concerns activities associated with the handling and management of equipment, products, components, materials or even entire technical systems to be recovered (for succinctness we will often use the term products alone). Recovery can simply be just reselling a product. Or, it can be accompanied by a series of processes as collection, inspection, separation, and so on, leading to e.g. remanufacturing or recycling. Material recapture and product or equipment (partial) reuse is a very old practice. In the past, the primary motivation was scarcity of resources. However, the emergence of cheap materials and advanced technology led Western societies into mass consumption and routine throw away.

Today Reverse Logistics (RL) has become a major thrust area especially in the field of aftermarket spare parts as well as electronics and computer hardware markets. RL is a new pattern of enterprise strategy management and green supply chain management. RL is pursued for a coordinated optimization of economic and social efficiency of the product. Reverse logistics is not only the foundation of circular economy, but also had become the synergism with the construction of a healthy environment.

Rogers and Tibben-Lembke, define RL as:

“The process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal”

Bayles describes that RL enables the reuse of discarded products from commercial returns and management of excess inventory of products and materials. It entails processing merchandise returned due to damage, seasonal inventory, re-stock, and salvage, recalls and excess inventory.

Reverse logistics management also encompasses recycling programs, hazardous material management programs, obsolete equipment disposition and asset recovery. The benefits of reverse logistic are regaining value achieving a competitive advantage.

Reverse logistics stands for all operations related to the reuse of products and materials. It is "the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal. More precisely, reverse logistics is the process of moving goods from their typical final destination for the purpose of capturing value, or proper disposal. Remanufacturing and refurbishing activities also may be included in the definition of reverse logistics." The reverse logistics process includes the management and the sale of surplus as well as returned equipment and machines from the hardware leasing business. Normally, logistics deal with events that bring the product towards the customer. In the case of reverse logistics, the resource goes at least

**1.2 INDUSTRY PROFILE**

Logistics is regarded as the backbone of the economy as it ensures efficient and cost-effective flow of goods and other commercial sectors depend on it. Logistics industry in India is evolving rapidly. It is the interplay of infrastructure, technology and new types of service providers, which defines whether the logistics industry will be able to help its customers reduce their costs and provide effective services. Despite weak response, the logistics industry continues to witness growth owing to the progress in retail, e-commerce and manufacturing sectors. The Global Logistics sector was expected to grow 10 to 15 per cent in 2013-14. Logistics industry is expected to reach over $2 billion by 2019. Rise of e-commerce logistics and increased domestic consumption will pave the way for the industry to grow further in future. With the promise of steady growth and improvement, the service oriented logistics industry is ready to expand beyond the horizons in the latter half of this decade.

**Recent Scenario**

The recent Indian logistics sector comprises inbound and outbound segments of the manufacturing and services supply chains. Of late, the logistics infrastructure has gained the much needed boost from business houses as well as policy makers. Managing the infrastructure to effectively compete with other industries has not been given its due emphasis. Inadequate logistics infrastructure can create bottlenecks in the growth of an economy. The logistics management regimen has the capability to overcome the disadvantages while providing cutting-edge competitiveness in the long run. There exist several challenges and opportunities for the sector in the Indian economy.  The biggest challenge faced by the industry today is poor integration of transport networks, information technology and warehouse & distribution facilities. Regulations existing at different tiers are imposed by national, regional and local authorities. However, the regulations differ from city to city, hindering the creation of national networks. Trained manpower is essential for the third party logistics sector and the manufacturing and retailing sectors. It is lacking at the IT, driving and warehouse as well as at the higher strategic level. The sector is in a disorganized state in India. The general perception of logistics being a manpower-driven industry and lack of adequate training institutions have created crisis of skilled management and client service personnel. Poor facilities and management are reasons behind high levels of loss, damage of stock, mainly in the perishable sector. The problem arises mainly because of the absence of specialist equipment, like proper refrigerators. Lack of quality training is another reason. Though practitioners and academicians are slowly becoming aware of the importance of logistics and supply chain, however, the field is still not adequately explored as far as research is concerned. It is essential to prioritize research and development so that the weaknesses in the industry can be taken care of and improved.

Infrastructure is the backbone of every country’s growth and prosperity. The same is true for the logistics industry. Emphasis should be laid on building world-class road networks, integrated rail corridors, modern cargo facilities at airports. Logistics parks should be set up and accorded a status equivalent to Special Economic Zones. It is necessary to realize that the logistics industry can best be benefitted if companies establish training institutions to improve the service quality of the sector. Good storage and warehouse facilities are important for the growth of the industry. With increase in the transportation of perishable products, the logistics agencies need to give a lot of importance to enhancing the warehouse facilities. Emphasis on research and development is potent because it encourages the use of indigenous technology, which can make the industry cost-effective and can also bring about improvement in services.

**CATEGORIES OF LOGISTICS**

Integrated logistics support, when properly understood and applied, can provide the means to identify and resolve many logistic problems, frequently before they developed. Logistics, in the broadest sense of the word, can be considered as scope of activity comprised of three major areas or subsets.

(1) Subsistence logistics,

(2) Operation logistics, and

(3) System logistics.

Subsistence logistics is concerned with the basic necessities of food, clothing, and shelter .At any given time, within any given environment, subsistence logistics is relatively stable and predictable. Men and women, as rational begings, know within very narrow limits what is needed, how much is needed, where it is needed, and when it is needed. Subsistence logistics is primary activity of primitive societies and is an essential ingredient of an industrial society. It provides foundation of operations logistics.

Operation logistics extends beyond the bare necessities by incorporating systems that produce the luxuries or niceties of life. By definition, operations logistics incorporates the raw material required by the enterprise in the production. This category of logistics is also relatively constant and predictable. All enterprise, from the automobile manufacturer to the fast food chain store can determine the quality of materials and the resources needed for its production with high degree of accuracy. Operation logistic can not, however, determine when a component of the enterprise is going to break down ,what will be required to repair it ,or the duration activity .Operation logistics, which is concerned with the movement an storage of material in to ,through ,and out of enterprise ,provide the foundation for system logistics .

System logistics incorporates the resources required in keeping a system in operating condition. These resources, or logistics elements, are spares and repair part, personnel and training, technical publication, test and support equipment, and facilities. A well designed integration of these logistics elements is critical when, for eg; repair instructions describe one methods of repair and tools are developed for another method . Thus repair may be impossible

**VALUE-ADDED ROLE OF LOGISTICS**

Four principal types of economic utility add value to a product or service. Included are form, time, place, and possession. Generally, we credit manufacturing activities with providing form utility, logistics activities with time and place utility, and marketing activities with possession utility. We discuss each briefly.

* Form Utility: Form utility refers to the value added to goods through a manufacturing, production, or assembly process. For example, form utility results when raw materials are combined in some predetermined manner to make a finished product. This is the case, for example, when a bottling firm adds together syrup, water, and carbonation to make a soft drink. This simple process of adding the raw materials together to produce the soft drink presents a change in production form that adds value to the product.
* Place Utility: Logistics provides place utility by moving goods from production surplus points to points where demand exists. Logistics extends the physical boundaries of the market area, thus adding economic value to the goods. This addition to the economic value of goods or services is known as place utility. Logistics creates place utility primarily through transportation. For example, moving farm produce by rail or truck from farm areas to markets where consumers need this produce creates place utility. The same is also true when steel is moved to a plant where the steel is used to make another product. The market boundary extension added by place utility increases competition, which usually leads to lower prices and increased product availability.
* Time Utility: Not only must goods and services be available where consumers need them, but they must also be at that point when customers demand them. This is called time utility, or the economic value added to a good or service by having it at a demand point at a specific time. Logistics creates time utility through proper inventory maintenance and the strategic location of goods and services. For example, logistics creates time utility by having heavily advertised products.

To some extent, transportation may create time utility by moving something more quickly to a point of demand. Time utility is much more important today because of the emphasis upon reducing lead time and minimizing inventory levels through logistics-related strategies such as JIT inventory control.

* Possession Utility. Possession utility is primarily created through the basic marketing activities related to the promotion of products or services. We may define promotion as the effort, through direct and indirect contact with the customer, to increase the desire to possess a good or to benefit from a service. The role of logistics in the economy depends upon the existence of possession utility, for time or place utility make sense only if demand for the product or service exists. It is also true that marketing depends upon logistics.

**IMPORTANCE OF LOGISTICS MANAGEMENT**

Logistics management from this total system is the means whereby the needs of customers are satisfied through the coordination of the materials and information flows that extend from the marketplace through the firm and its operations and beyond that to supplies.

Today’s organizations worldwide need logistics management more than ever because of following:

1. Competitive pressure 2) information technology 3) channel power and 4) profit leverage.

These are the discussed briefly in the following paragraphs.

1. Competitive pressure: during the 1970s. Logistics received more attention as a major cost driver to offset the effects of rising interest rates and increasing energy costs. In addition the logistics cost became more critical for many multinational companies because of globalization of their business. these developments affected logistics primarily in two ways :
2. The growth of world class competitors which has pressurized organization to differentiate themselves and their product offerings. Logistics enable domestic firms to provide more reliable and responsive services to customers in the local markets than overseas competitors.
3. As firms increasingly buy and sell off-shore, the supply chain between the manufacturing firm and its supplier and customer firms become longer, costlier and more complex. Hence in such situation, excellent logistics is necessary to take advantage of global opportunities.
4. **IINFORMATION TECHNOLOGY:** with the explosion of information technology, organization gained the ability to better monitor transaction intensive activities such as ordering, transportation and storage of goods and materials. Computerized quantitative models along with technology increased the ability to manage material flows and optimize inventory levels and movements. For example, systems such as material requirement planning (MRP 1), distribution resources planning (DRP) and just-in-time (JIT) allowed firms to link many activities such as order processing, inventory management, forecasting and production scheduling.
5. **CHANNEL POWER:** the channel power shifted from manufacturers to wholesalers, distributors and retailers. This has had a great impact on logistics. In major consumer good industries, when competition increases, many suppliers and manufacturers are forced out of competition and a few leading; competitors remain in the market. Those who remain are highly competitive and are able to offer very high quality products. In the views of consumers, all of the leading brands are substitute for each other and lower brand loyalty decreases the manufacturer’s power. Ultimately sales of consumer products are determined by what is in stock, and not by what particular brand offered to the customers.
6. **PROFIT LEVERAGE:** Any amount of money saved in logistics costs has greater impact on the organizations profitability than a similar increase in sales revenue considerably because profit earned through sales is only a small percent of sales revenue. Hence, a rupee saved in logistics is a rupee increase in the company’s profit. Therefore, we can infer that logistics cost savings have much more leverage than an increase in sales.

**LOGISTIC PLANNING**

A corporate mission is a statement setting out long range goals unique to each organization elucidating the business the company wants to be in, who its customers are its basic beliefs about business, and its goals of survival growth and profitability. Objectives and goals sets the targets which are to be achieved in the long term in order to fulfill the mission of the firms in order to achieve the long term objectives and goals, alternatives strategies or actions plans need to be evaluated in the context of the environment faced by the firm from these alternatives, specific strategies must be selected for implementation in order to meet the objectives and goals that will fulfill the mission of the firm hence business strategy is a long range game plan of an organization and provides a road map of how to achieve the corporate mission. The strategic or long term plans for the firm and developed at the highest level of management of the firm.

The strategic planning for each of the functions of the firm, such as marketing, operations, logistics, etc.that are derived from the firms strategic plans, are developed at the highest level of the concerned function. The strategic plan within the function need to be detailed in the form of tactical and operational plans at the tactical and operational levels of management in the respective function. The operational level og management of a function in affirm plans the operational activities in order to meet the tactical and strategic plans of the function and control the activities during implementation on order to meet the operational plans.

According to the planning level illustrates the logical flow of the planning process across the organization. The activity flows in the logistic function bring out the sequence of activities from order receipt to procurement to customer delivery. Strategic plans determine the capacity plans by defining the internal capacity limitations in manufacturing, warehousing, and transportation as well as human resources.

**Future Prospects**

The logistics firms are moving from a traditional set-up to the integration of IT and technology to their operations to reduce the costs incurred and to meet the service demands. The growth of the Indian logistics sector depends much upon its soft infrastructure like education, training and policy framework as much as the hard infrastructure. To support India’s fast-paced economy growth logistics industry is very essential. It is estimated that the industry will continue to grow at a robust rate of 10-15 per cent annually.

The global economic outlook and that of India is expected to significantly improve as India Inc begins to tackle the economic downturn. With a new government many policies are expected to be implemented, which will give a fresh impetus to India’s growth engine, particularly in the corporate and small and medium enterprises (SME) sector, which in turn will expand demand for the logistics sector.

**1.3 THEORETICAL BACK GROUND OF THE STUDY**

**THE CONCEPT OF REVERSE LOGISTICS**

Reverse logistics can be explained in various forms. They are discussed as inverse logistics and forward logistics, supply chain management and closed-loop supply chains.

**Inverse Logistics**

Inverse logistics is concerned with the post-sales service, returns and repairs, and of managing activities. They are a set of activities carried out by organizations aiming at extracting value from products and packaging that have come to the end of their useful life. It is an important organizational capability in the new business era. This is a collective responsibility of organizations. It also encompasses the return of excess inventories, customer returns, obsolete products and seasonal inventories returns as well as product withdrawal, reclassification, reconditioning and reshipment to the original point of sale or to other secondary markets.

The objectives of inverse logistics include asset recovery and recycling, achieving business advantage, obtaining improvement and benefits in production and market supply processes and the fulfillment of legal obligations Although inverse logistics incurs extra cost to organizations, it opens up new business opportunities and offers scope to secure competitive advantage in business. The barriers in inverse logistics are lack of investment, lack of awareness, interest, government subsidies and legal difficulties in implementing such processes.

The life cycle of products comprises of two aspects viz., forward logistics and reverse logistics. When the stage of forward logistics comes to an end for a product reverse logistics begins. In this section the various aspects of forward logistics are discussed.

Forward Logistics

Forward logistics is the process of supplying finished goods to customers.41. It is that part of the supply chain process that plans, implements, and controls the efficient, effective flow, storage of goods, services and related information from the point-of-origin to -consumption in order to meet the customers’ requirements.

Forward logistics comprises inbound logistics, that is, the process of providing raw materials and supplies for finished goods and outbound logistics, which is the process of providing finished goods to the customers.

There are different micro-dimensions of forward logistics which can provide better results and add value to processes. These dimensions include length of production runs, protective packaging, third party involvement, seasonal demand, marketing mix, matching scheduling, carrier pricing, channel competition, volume relationship, push and pull strategies and wholesale and retail strategies.

**Differences between Reverse and Forward Logistics**

Reverse logistics is perceived to be substantially different from forward logistics. The differences are apparent in seemingly related operations such as forecasting, packing, distribution, pricing, inventory management, and communication and marketing. Similarly, other differences emerge in features such as origin, destination of products, quality of products, cost of operations and visibility of products.

**Supply Chain Management**

Supply chain management and materials management are competitive business edges today. A supply chain is a system of organization, people, technologies, activities, information and resources involved in moving a product or service from supplier to customer. In many organizations, materials form the largest single expenditure item, accounting for nearly 50 to 65 % of the total expenditure. With competition growing by the day, cost reduction in business operations and making available various products to customers, as per their requirements, come into sharp focus. Importance of supply chain management is necessary as it has become the cutting edge of business, after the product quality and manufacturing capabilities of any business firm. These activities transform natural resources, raw materials and components into a finished product that is delivered to the end user.

**Closed-Loop Supply Chains (CLSC)**

CLSC is the taking back of the products, or portions of products from consumers and recovering the added value by reusing the entire product or parts of the product. A classic example is selling of a used computer. If one buys a brand new computer, he can exchange the old one in the process. This allows the dealer to sell the used computer or cannibalize its parts to help repair them. In this way a new industry based around reusing existing products can be created instead of manufacturing brand new products. This can create a better consumption model by allocating resources to recycling current products in lieu of manufacturing new products, in this process prices can be discounted for current products and future products. This method can save money and energy, thus creating a better consumption model for individual consumers. This practice is common in manufacturing industries that produce commercial aircrafts, computers, automobiles and chemicals in Europe.

**ADVANTAGE OF REVERSE LOGISTICS**

Reverse Logistics offers lot of advantages to the company in terms of both significant and minor benefits. In the first instance, companies are able to salvage defective equipments and parts which are either salvaged or refurbished. The salvage reclaims the value out of the defective parts. Secondly, the packaging and faulty materials are collected and recycled, generating scrap value for the company. Thirdly unsold and obsolete equipments are collected back from point of sale which encourages the distributors and stockists to buy the stocks from the company confidently knowing that they can always return unsold stock. In that case the distributors will not hesitate to stock all fast and slow moving goods as well. In the eyes of the customer and society, the organization stands to gain a good standing and reputation of being a responsible company if it takes care of the e waste and hazardous waste generated.

Reverse Logistics has been successfully modified in the western world as a marketing strategy. Refurbished computers are sold at cheaper prices by all leading brands and the demand for such computers seems to be growing. The spare parts used by the computer manufacturers to service the laptops and computers on warranty or on sale, include refurbished parts. Many electronic and consumer durable manufacturing companies offer to buy back or exchange the old equipments from the customer when he intends to purchase a brand new product. In consumer electronics, the exchange offers for white goods such as washing machines and refrigerators are a big hit during discount sale seasons.

Ere long, RL had not been seriously considered by many organizations which did not have established policies, systems, human or financial resources to deal with this issue. Until now, little work had gone into studying how reverse logistics could have a positive impact on a company’s bottom line.

The focus on RL is being influenced, not only by supply chain improvements, but also, by legislation that puts the onus on manufacturers and retailers to safely dispose of unsold/used goods and be fully responsible for their products even after the useful life.

Managed in the right way there are multiple benefits which the company will accrue, beyond meeting legislation, by tackling reverse logistics. By harnessing and re-engineering existing supply chains, there are opportunities to improve accuracy, reduce costs and track products that will minimize loss of revenue due to faulty, obsolete or missing stock. In some cases, organizations have considered ways to reward employees for their smartness in recapturing the value via the flow of products back though the supply chain.

There are a number of measurable and tangible benefits that can be achieved through the features and functionality found within a state of the art RL solution. These benefits are listed below

**Profitability**

One of the major aims in implementing a new RLM system is to achieve profitability through cost reduction and RL efficiencies. Profits can be derived beginning from process, people, and inventory by improving labour productivity and process efficiency. This can be achieved by minimizing losses from depreciation and shrinkage. Further, profits can be achieved by improving shop floor velocity, improving returns inventory utilization and improving asset to cash cycle time. By streamlining the collaboration across multiple suppliers and capturing accurate RL strategy and depot operations costs also profits can be accrued. Profits can be further obtained by improving regulatory compliance, customer penalty avoidance, improving component warranty entitlement, processing return-to-vendor warranty and track repair workmanship warranty.

**Customer Retention**

Another major gain of an advanced RL systems are increased service levels and improved customer satisfaction. RL keeps customers happy and coming back. They implement faster, simpler returns processing and turnaround time for customers. They establish enterprise-wide visibility for customer order and asset tracking. They define, automate, and standardize business processes for a consistent customer experience across product lines.

**Revenue Generation**

RL helps the manufacturer to establish and enhance revenue generation programs. It is useful to streamline production processes and endto-end visibility. It helps to refurbish and resell. It enables the producer to sell with extended warranty services and extended service contracts. Further it is convenient to sell the product with accessories, upgrading and helps to cross-sell other products.

**Brand Equity**

Advanced RL systems create “green” PR through recycling and sustainability. In this process they build customer intimacy. They improve relationships with suppliers and channels, effectively manage recalls and protect corporate reputation through proper regulatory compliance. Every stage of RL has a financial impact toward lowering labour and material costs or increasing top line opportunities. The Financial impact of RL helps reduce or eliminate high labour intensive and time consuming tasks. The RL supply chain enables a company to better control, plan, and anticipate service events. In such an atmosphere, the labour force can work more efficiently and obtain a higher level of productivity. RL can also facilitate a considerable reduction in material costs (e.g. inventory) through visibility and planning tools, real-time information tracking, tracing, standardized processes and procedures and the self-monitoring of RL events.

**Uniqueness of Reverse Logistics**

Reverse Logistics and forward logistics as part of a business value chain have common characteristics. At the same time they have also have separate characteristics.

**Distribution**

RL has the place, time, quality and quantity which are difficult to foresee. The forward logistics has certainty, of volume, time and the designated delivery point.

**Time-Consuming**

The generation of waste materials are often does not immediately meet certain needs. It goes thorough processing, and restructuring and the processing time is longer. At the same time, collection and recycling of used materials is a more complex process.

**Inconsistency**

Majority of the enterprises are having difficulty to control the recovery time and space products, which will lead to the variability mostly in the following aspects:

**1.3 NEED OF THE STUDY**

RL is an important link of the supply chain management. Many companies that, previously, did not devote much time or funds to the management and understanding of RL had begun to pay attention towards this policy.

**CHAPTER – II**

**REVIEW OF LITERATURE & RESEARCH DESIGN**

**2.1 REVIEW OF LITERATURE**

Pohlen and Farris (1992) define Reverse Logistics, guided by marketing principles, as being: “ the movement of goods from a consumer towards a producer in a channel of distribution.”

Kopicky (1993) defines Reverse Logistics analogously to Stock (1992) but keeps, as previously introduced by Pohlen and Farris (1992), the sense of direction opposed to traditional distribution flows: “ Reverse Logistics is a broad term referring to the logistics management and disposing of hazardous or non-hazardous waste from packaging and products. It includes reverse distribution, which causes goods and information to flow in the opposite direction of normal logistics activities.” In the end of the nineties,

Rogers and Tibben-Lembke (1999) describe Reverse Logistics including the goal and the processes (the logistics) involved: “ The process of planning, implementing, and controlling the efficient, cost-effective flow of raw materials, in-process inventory, finished goods, and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal.” The European Working Group on Reverse Logistics,

RevLog (1998-), puts forward the following definition: “ The process of planning, implementing and controlling flows of raw materials, in process inventory, and finished goods, from a manufacturing, distribution or use point to a point of recovery or point of proper disposal” The above definition is more extensive than the one proposed by Rogers and TibbenLemke (1999). We do not refer to “ point of consumption” nor do the products need to be returned to their origin, but may be returned to any point of recovery (e.g. collected computer chips do not go back to the original supply chain, but may enter another chain). In this way we incorporate more flows that naturally fit in the definition and which characteristics are the same as of other reverse logistic streams. At the same time we keep the essence of the definition as put forward by Rogers and Tibben-Lembke (1999), which is logistics. Next to Reverse Logistics, there are several competing terms, like reversed logistics, return logistics and retro logistics or reverse distribution. In fact, the diversity of definitions with respect to recovery practices is a well-recognised source of misconceiving both in research as in practice (Melissen and De Ron, 1999).

Thierry et al. (1995) shape product recovery management by detailed going over the recovery options, from direct re-use to land filling, and by situating them in the supply chain. In this paper besides outlining how products can be recovered, we add two dimensions that help to understand Reverse Logistics: why and what.

Fuller and Allen (1997) propose a typology of reverse channels, founded in the current practice of reverse logistics, specifically for post-consumer recyclable products. Thus, the paper is limited to a particular recovery option, i.e. recycling, and a particular source, i.e. households. Besides this, the focus of the typology is the listing of actors involved in recycling systems. We go behind this approach by considering a more extensive set of characteristics and overall recovery processes.

Carter and Ellram (1998) subdivide the literature on reverse logistics in, general, transportation and packaging, and purchasing. Then, they develop propositions by making use of marketing and management literature. Based on these, they put 5 together a model of the driving forces and constraints for Reverse Logistics. As the authors agree, the propositions lack empirical evidence. We identify Reverse Logistics features other than only driving forces and we accompany it with examples from real practice.

Gungor and Gupta (1999) present an extensive review of the literature (more than 300 articles or books) on environmentally conscious manufacturing and product recovery. They subdivide the literature in categories, outlining a framework. This paper looks upon product recovery from the point of view of environmentally conscious manufacturing. We contemplate a tri-fold driving force for Reverse Logistics: extended responsibility (where the environment accountability is included), economics and legislation.

Goggin& Browne (2000) have recently suggested a taxonomy of resource recovery specifically for end-of-life products with the focus on electronic and electrical equipment. The study is centered on a specific type of product namely, electronic and electrical equipment. Furthermore, only three types of recovery are taken into account. We keep our look upon Reverse Logistics thoroughly and not product specific.

Dowlatshahi (2000) classifies the literature on Reverse Logistics according to five categories: global concepts; quantitative models; distribution, warehousing, and transportation; company profiles; and, applications. In the opinion of the author the majority of the articles "lack of depth," "do not describe the basic structure of Reverse Logistics," and "do not define the basic concepts and terms”.

Chang-Ing and I-Jin (1999) show the relation between average logistics cost per item, consumer demand and the interrelationship between them are analyzed. Commodities are distributed through a depot directly or through single intermediate terminal to many retail establishments. Minimizing average logistics cost, or maximizing total supply subject to the demand-supply equality determines the optimal density of retail establishments and local terminals. The envelope curves for the optimal configuration strategies corresponding to different values of total market area and terminal cost are derived. Aronsson et al (2000) have developed a template for a logistics education course. The template addresses functional, process and supply chain needs. The template is currently being prototyped with the principle of ‘gestalt’- the whole is greater than the sum of the individual parts.

Technical Research Center of Finland. Seventeen enterprises participated in this study. In this study a calculation model was developed and tested with the logistics costs of the participating companies. After calculating the costs, order structure as well as the working methods of the companies’ was examined. With this information the ABC simulation model was developed to explain and simulate the change in the logistics costs of a company.

Neil and Jim (2001) look at the emerging issues in reverse logistics system. There is a fundamental shift in waste management responsibility from the private waste management industry and local governments towards manufacturers, distributors and retailers. In the recent years the responsibility of manufacturers has been extended to cover the entire life of certain products. The enforcement of environmental legislation becomes morestringent and an increasing number of customers are demanding to take-back of their old products. Companies are beginning to focus on possible distribution channels for the return of their products i.e. Reverse logistics.

Wang and Tyan (2003) refer the involvement of Global third-party logistics in e-commerce and globalization. An effective global supply chain (GSC) management seeking to secure market share. Global third-party logistics (3PL) has developed into an alternative for the needs of global collaboration. In this, the authors present a new application of collaboration in Global Supply Chain execution, namely collaborative transportation management (CTM) that can reduce delivery time and to improve delivery reliability. A case study is illustrated the application of CTM by a 3PL provider in a notebook computer GSC. The implementation results show that the delivery cycle time and the total cost are simultaneously reduced.

Alan and Van Remko (2003) brought a conceptual developments in logistics and supply chain management in “lean thinking” and “agility. Cranfield School of Management has been at the forefront of these developments and has benefited enormously from the groundbreaking work in this field.

Kee-Hung and Cheng (2003) describe the supply chain performance (SCP) in transport logistics by service providers in the transport logistics industry in Hong Kong. The industry in this study encompassing firms involved in the business of serving the physical flows of goods from a point of origin, i.e. shippers, to a point of destination, i.e. consignees, in a supply chain. These firms include those in sea transport, freight forwarding, and air transport and third-party logistics services. The authors mention that they have conducted a cross sectional survey with firms in the industry to evaluate their perceived Supply Chain Performance in transport logistics and the attached importance from both cost and service perspectives. This study envisages managerial insights for firms in the industry to understand their SCP in transport logistics and benchmark areas for performance improvement.

Makukha and Gray (2004) communicate that Logistic Service Providers claims that they are the strategic partners but they are unable to provide the service required. The most existing logistics partnerships are still operational rather than strategic in nature. Many logistics partnerships being operational in nature, are known as “Strategic” without not understanding of the term, and the influence of a logistics partnership on a shipper’s strategic moves and competitive positioning has not been researched thoroughly.

(Bhatnagar&Viswanathan.G, 2000, International journal of Physical Distribution & Logistics Management, 30,(1),pp.13-34). A Delphi investigation reveals that although large companies from logistics partnerships, the perceptions of partnership formation motives, inhibitors and orientation by shippers and Logistics Service Providers (LSPs) are likely to differ. The failure to integrate on a strategic level suggests a lack of strategic management knowledge by relevant managers.

Larson and Halldorsson (2004) introduce by describing four unique perspectives on the relationship between logistics and Supply Chain Management. Results of an International survey of logistics/SCM experts are reported. 200 questionnaires were sent to leading logistics educators. Based on experts opinion, cluster analysis conducted and confirms that the existence of the four perspectives on logistics versus SCM re-labeling, traditionalist, unionist and intersectionist.

Lai et al. (2004) examine the factors that encourage firms in Hong Kong’s logistics industry to implement quality management system to ensure quality in their work processes. A generic ten-step approach for Quality Management system (QMS) has been introduced and discussed the cost and service advantages achieved in the case firm. The approach offers Procedural guidelines for firms in the industry contemplating the implementation of Quality Managements.134

Miguel (2004) indicates performance measurement systems truly applicable in Logistics Management and control. The impact of using performance measurers on management style has been largely neglected. The author sets out to explore this gap using an approach based on Simons’ diagnostic versus interactive modes of control. The author aimed at describes the changes in logistics management and control compared with the situation in the rest of the firm. A case study method was undertaken involving a medium sized ceramic tile manufacturer. The results show that a clear interactive use in the logistics area, while in non-logistics department’s performance measures is used diagnostically.

Sajed and Gunilla (2004) describe the ‘impact of logistics on environment’. An environmental implication of logistics systems is one of the future challenges to logisticians. This paper explores the logistics and supply chain management (SCM) discipline to see how the scientific community handles this challenge. The preliminary literature has revealed that there are weak ties between the logistics/SCM discipline and the environmental discipline. The analysis indicates that the literature seems to be unbalanced: knowledge about assessing ‘impact of logistics on environment’ is missing, and most emphasis is on ‘impact of environment on logistics’. From the reverse logistics literature knowledge about implementation has been drawn, the same has been described by scholars as explanatory and anecdotal. When comparing the subject logistics/supply chain management and environment135with other subjects in the logistics literature, less attention has been paid to “Logistics/Supply Chain and environ”

Khalid and Richard (2004) reveal that Ports are recognized as a potential for logistics centers. Conceptualizing ports from a logistics and supply chain management approach, it is possible to suggest a relevant framework of port performance. The integrated approach of Logistic Management (LM) and Supply Chain Management (SCM) are for cost reduction and customer satisfaction. The logistics approach often adopts a costs trade-off analysis between functions, processes and even supplies chains. The approach also could be beneficial to port efficiency by directing port strategy towards relevant value-added logistics activities. A proposed framework is tested in a survey of port managers and other international experts.

Gepfert H Alan (2004) opines that Lack of management foresight when making major decisions on distribution facilities and operations can deprive a company of needed flexibility for future changes and thus lock it into a deteriorating profit trend. The author adds, “Such a lack of foresight almost always goes hand in hand with a failure to recognize logistics as a distinct function of the business and to integrate the planning and operating activities of the company’s functional divisions in the light of a logistics analysis”. This study shows that the system approach recommends in this136article describes how top managers can utilize the OR-computer capabilities to detect significant profit improvement opportunities in the logistics function.

Markus and Jean-Paul (2004) show that Institutional dimension of logistic largely at the global scale. The enduring growth of movements of goods and the freight distribution networks supporting them are widely underrepresented in regional science geographical research. Globalization has been a dominant paradigm of contemporary geographical research. The transport industry itself has become more closely integrated. Recent developments in international transportation.

**2.2 STATEMENT OF THE PROBLEM**

Reverse Logistics is an issue that has received growing attention, above all, in the last decade, given the confluence of several situations. On the one hand, there is a verifiable concern about environmental matters and sustainable development. On the other hand, economical reasons have also had their contribution in this increasing importance of Reverse Logistics issues. By means of the returned products, companies stand the possibility of recovering either constituent material, that not longer need to be purchased in the same quantities, or added-value.

**2.3 SCOPE OF THE STUDY**

This study is restricted to the logistics services offered by KRS services & the time period of the study is between january to march. The study provides the impact of the reverse logistics system in KRS. The project determines the trade and logistics management facility. The project deals with measurement of service, and links with internal performance appraisal and improvement process of trade industry.

**2.4 OBKECTIVES OF THE STUDY**

**PRIMARY OBJECTIVE**

* To understand reverse logistics system

**SECONDARY OBJECTIVE**

* To study the reasons for reverse logistics
* To identify the problems if any in the reverse logistics system and to come out with solution for the problem
* To give feasible suggestion to the company about the improvement in reverse logistics system.

**2.5 METHODOLOGY**

Reverse Logistics stands for all the operations related to the reuse of used products, excess inventory of products and materials including collection, disassembly and processing of used products, parts, or materials. Over the last few years, Reverse Logistics has received much attention because many companies are using it as a strategic tool to serve their customers and can generate good revenue. An efficient Reverse distribution structure may lead to a significant return on investment as well as significantly increased competitiveness in the market. Therefore, analysis of barriers hindering the successful implementation of Reverse Logistics in crucial issue.

This research work is used to investigate the factors to determine trends and best reverse logistics practices. It is an exploratory and descriptive research, as it has using both the secondary data and surveys respectively.

**2.4.1 RESEARCH DESIGN**

The research design is based on descriptive study. Data are tabulated and interpreted using tables and graphs. The tables and graphs are analysed and interpreted on the basis of the data. The data collection is done through questionnaire.

**2.4.2 DATA COLLECTION**

1. **PRIMARY DATA**

The primary data collected in the form of questionnaire. To study the overall functioning of the reverse logistics system, I approach the distribution and logistics managers of Kerala Roadways (P) Ltd.

B) **SECONDARY DATA**

The source of Secondary data collected from the workers and the sales and supply chain department of Kerala Roadways and refers the internet about Reverse Logistics functioning.

**2.4.3 SAMPLE SIZE AND METHOD**

Sample size of the study is hundred. The datas are analysed and interpreted on the base of these hundred samples. The method used for the research is simple random sampling method.

**2.5 LIMITATION OF THE STUDY**

* Lack of reliable data
* Difficulties in collecting data from customers.
* Insufficiency in sample size to make analysis.
* The collected data is not much fair.

**CHAPTER – III**

**PROFILE OF THE SELECTED ORGANIZATION**

**3.1 COMPANY PROFILE**

Kerala Roadways (P) Ltd, popularly known across India as KRS, was established by Mr. V K MoidooHajee in the year 1962 as a one stop logistics solutions provider for the South Indian region.

Today, five decades later, KRS consistently ranks among the top five logistics companies in India. Covering the length and breadth of the country, KRS serves its clientele through an extensive pan-India network of 400 offices, serving more than 1000 locations through a dedicated workforce of over 3,500 employees. Suffice to say, there is no place in India that is not a truck-length away for the KRS team!

By the time it takes to complete reading this sentence, a KRS personnel would have transported and delivered close to a tone of goods somewhere in India that an average of 7,500 tons of cargo daily ! With a fleet of 1,500 trucks, both contracted and owned, KRS infrastructure is unparalleled.

Over the last decade, KRS has invested heavily in technology its customized Freight Management System (FMS) enables it to deploy cutting edge innovations in IT to provide accurate and e"cient services and communication to its customers from GPS tracking of cargo on real-time platforms to computerized document controls, KRS is fully geared to meet the challenges and exceed expectations of modern logistics.

The company has also been very successful in developing a strong and enviable presence in the 3PL and C&F sector over the years. Today, KRS represents many market leaders, including, Hindustan Unilever, TATA Chemicals, TATA Motors, PerfettiVanmelle, Wipro, Philips, Nirlep and Godrej. KRS is very proud to be recognized as the Best 3PL operator in India by Philips, Dabur and TATA.

The promise that we made to our customers, our partners, 50 years ago still holds good today that our commitment to serve and work hard will never falter; our focus on quality of service and continual improvement will never waiver. Thank you for having given us the opportunity to serve you.

**Highlights**

* 500 destinations across India, out of which 190 are in Kerala
* First Computerized Private Sector transport company in India
* On an average, one KRS branch is present at every 10 km stretch of the National Highway (NH) in Kerala
* Work force of over 3500 people
* 4500 tons of cargo handling on daily basis
* Fleet of about 1200 trucks
* Computerized freight management system monitoring operations
* Approved by the Indian Bank Association
* Strong clientele including Wipro, Godrej, Philips, Tata Motors, HUL, Dabur, Pidilite Industries etc.
* Addition of 3 million sq ft. of warehousing space in coming 3-5 years

**Vision**

To evolve as an essential partner with the national transportation network in its effort to strengthen the commercial and industrial base of the country.

**Mission**

Flourish as trusted transportation partner for various firms and receive recognition for excellence in service through:

Proper, reliable and efficient transportation of consignments

Smooth and fast delivery of goods

**Core values**

Steady insistence on RELIABILITY and PROMPTNESS

Central importance to Maximum Customer Value

Allocation of all necessary organizational resources in the form of manpower, time and finance to assure QUALITY

Implementation of continuous improvement program through R&D, competence assessment and assurance systems and skill enhancement training of the employees

Established commitment to SAFE AND HEALTHY working environment as well as insistence on minimizing all forms of pollution in its activities

**Inception**

In the early 1960s when Madras was a major trading centre, a dire need was felt to connect the major cities of Kerala such as Calicut and Ernakulam for easier transportation of goods and parcels with Madras. The requirement of the retail traders in these cities were realized by Kerala Roadways with Mr. V.K. MoidooHajee. As the proverb goes, necessity is the mother of invention three branches of KRS were established as a proprietary concern in Madras, Calicut and Ernakulam with the idea of implementing fast transport service from Madras without any transshipment points.

**Milestones**

With the Indian Bank Association recognizing the company in 1976, the company made great progress with big companies resorting to their services in cargo transportation.

The proprietary concern was transfered into a partnership (retaining the same name) in 1978 when CPKunhi Mohammed became a partner. Later in 1981,a new company, Kerala Roadways (P) Ltd was established by intergrating the assets and liabilities of the firm.

In 1988 under the provision of Section 40A (Turnover clause) in accordance with the Amendment of the Companies Act, KRS became a deemed public limited company. Siraj MK and Nasly Mohammed joined the Board of Directors in 1987 and 1994 simultaneously.

Computerization in the firm began in 1988 and within 1995 almost all the major regional branches were equipped with the prevailing computing technologies. Throughout that period, the PC-Telex interface played a crucial role as all queries were transmitted through the same.

**Services**

**Parcel Service**

Parcel Service is our core area of business where KRS has registered phenomenal growth since its inception. We have over 1200 trucks at service that transport your goods and cargo safely to any corner of the country. We bring goods from all parts of the country to Kerala, Tamil Nadu. In Kerala, we have 190 branches and our customers can locate one branch of KRS warehouse in every 10 kilometers. We have 500 warehouses all over the country.

**Pack & Move**

While shifting from one place to another, the most vital factor that revolves in your mind is about the safety of your belongings. KRS understands and realizes the sentiment attached with the customers and we take immense care to make sure that we deliver top rated packing and moving services to our clients. To prevent the goods from dust, moisture and other damage, we use packing materials of international standards. We use various types of boxes for various categories of goods like special boxes for fragile items and hanging box for clothes. Advantages that are guaranteed from our side are immediate settlement of claims in case of unforeseen contingencies, part load, and zero trans-shipment.

**Warehousing**

Our warehousing solutions are such designed that it shares a major chunk of the logistics load off your heads. We not only ensure that your goods and cargo are safe and secure while on the way to be delivered but also the strict control checks on entry and exit ensure that they reach you in excellent condition. Our effort is to reduce your overheads and save precious time that is otherwise wasted on logistics, thus providing you smoother process to work with.

**Logistics**

Teamwork and meticulous timing are the basics behind the success of our system. We help our client companies to run their business smoothly without any trouble. Our main aim is to streamline the task of delivering shipments of our clients companies. Starting from the process of pick-up of shipments, we specialize in all other activities like safe delivery of goods at proper time, geographical tracking of shipment location.

**3PL**

3PL or the Third Party Logistics is experiencing generous expansion opportunities with the surfacing of various sturdy industries. Being a 3PL service provider, we at KRS make sure that we stick to certain guidelines that include providing outstanding client service, management of colossal amount of freight for our clients and meeting deadlines.

**Carrying & Forwarding**

As Carrying& Forwarding as one of the services provided by our company we undertake the listed steps:

1. Receiving goods from factories or location of the customers

2. Goods warehousing

3. Receiving shipment orders from the main client

4. Arrangement of goods dispatch as per the instructions provided by client either through our transport or through the official transporters of the particular client

5. Preservation of all relevant records and documents related to the stock present at warehouse

**SCM**

Supply Chain Management (SCM) is the management of interrelated business concerned in the final stipulation of product and service packages that are needed by end customers. We follow three detailed steps in ensuring perfect SCM for our customers, which include Strategic level, Tactical level and Operational level. We believe that by relying on effectual supply chains we can compete successfully in the networked financial system and worldwide market. We maintain 100% transparency and also offer visibility of supply chain to our customers so that they can plan and administer any type of differences in their demand levels and supply in addition to inventory.

**JIT Management**

JIT or Just in Time Management advocates having just the right amount of inventory, and spending just what you need on overheads, to meet the demands of your organization. This means you can receive your goods within shortest possible time limit without involving unnecessary capital tied up. KRS offers solutions help optimize your transportation and logistics operations, leaving you to employ your valuable resources in the core processes. The lesser time and money spent on transporting and storing your inventory, more effective will be your supply chain!

**Online Services**

**KRS Online**

We facilitate Online Booking, Goods Tracking and SMS tracking. We can track a truck movement anytime, enabling us to control the entire operations in real-time. Consumer tracking is possible via email, SMS, Phone and online.

Use the control panel in the left-hand side of the website to track the status of the consignment. You can also locate the branches across the country using the drop-down tool.

**Systems**

Our facility boasts of a State-of-the-art Technology Backbone that includes:

* In-house data centre
* Mobile tracking
* GPS enables vehicles

**Quality Policy**

* In all our activities, we shall strive to achieve reliability
* Ur packages of services shall ensure maximum customer value
* shall try to deliver goods within time limits specified
* will allocate necessary organizational resources in the form of time, manpower and finance to achieve quality assurance
* Will try to provide safe and healthy environment and try to minimize all forms of pollution due to our activities.

**Branches**

* Andhra Pradesh
* Gujarat
* Haryana
* Karnataka
* Kerala
* Madhya Pradesh
* Maharashtra
* Pondicherry
* Punjab
* Rajasthan
* Tamil Nadu
* Uttar Pradesh
* West Bengal

**Various departments**

**Finance / Accounting**

Whether it is auditing freight bills and discovering billing errors, involving accounting in supply chain is important but it doesn’t stop there. Budgeting, negotiating contracts with carriers, and managing parcel shipping to include service failure refunds all typically involve accounting and finance personnel. In addition, many companies struggle allocating freight and transportation costs accurately to the right locations, department, or general ledger code. More often than not, the CFO or Controller is one of the most important people in the organization when it comes to supply chain and logistics costs because of the impact they have on the company’s bottom line.

**Technology / Data**

Formerly the exclusive domain of the IT department, harnessing technology and data is now a part of the job in an organization. Logistics is no exception. By tracking raw materials and incoming products, as well as outgoing shipments and sales, inventory management is a key driver of profitability and expense control. Giving decision-makers and managers the ability to see the data they need to make good decisions is vital now. Engaging your team members whose responsibility includes data management is absolutely critical in this day and age.

**Purchasing / Manufacturing**

If an organization is involved in the manufacturing of products of any kind, logistics and transportation are absolutely critical. The lifeblood of the organization is the raw materials and components that are planned, purchased, scheduled, and delivered to the facility in which they are made. This requires management of inbound freight and extensive planning. It involves the building of trusted relationships with key carriers who understand your needs and requirements regarding packaging, lead times, and delivery schedules. Additionally, ensuring your vendors are complying with your logistics and transportation policies and purchasing terms gives your company better leverage with carriers and helps drive efficiency.

**Transportation / Logistics**

This department is the most obvious in this context, but understanding that the role of a Manager in this department in an organization is evolving and changing at a supersonic pace is important. The fact that logistics now impacts so many departments in an organization illustrates how important it is to get the right person overseeing this process. This leader must possess knowledge to understand the key profit and success drivers in the other four departments above and build relationships to knock down silos that may have formed. Supply Chain and Logistics Managers today have to embrace rapid change and be at the strategy table with other executives and decision-makers in the organization to ensure that the company can deliver on its promise to both internal and external customers.

The rate of change sped by technology advancing exponentially is driving every company to look at new ways to manage their business. Opening new markets, increasing market share, controlling costs, building strategic partnerships, and identifying the key drivers in your business are not just ways to get ahead in 2015 – they are necessary for survival.

**Human resource**

Human resource department is a major term or major department relates to business. HR department are developed for making employee as a part of organization and also increasing their efficiency. They develop plans, procedure and activities for employees and also understand their problems with the hob, they also realize about whether the labours are satisfied with their hob and if not take action for that. It is differ from other functional department because it is related with human beings and it is the development of human resources of an organization

**Various activities**

**Order processing**

It is an important task in functions of logistics operations. The purchase order placed by a buyer to a supplier is an important legal document of the transactions between the two parties. This document incorporates the description or technical details of theproduct to supply, price, delivery period, payment terms, taxes, and other commercial terms as agree.

Processing of this document is important as it has a direct relationship with the order or the performance cycle time, which indicates the time when the order is received and when the materials are received by the customer. The order processing activity consists of the following steps:

* Order checking for any deviations in agrees upon or negotiated terms
* Prices, payment and delivery terms.
* Checking the availability of materials in stock.
* Production and material scheduling for shortages.
* Acknowledging the order indicating deviations if any.

**Inventory control**

Inventory management is to keep enough inventories to meet customer requirements, and simultaneously its carrying cost should be lowest. It is basically an exercise of striking a balance between the customer service for not losing market opportunity and the cost to meet the same.

The inventory is the greatest culprit in the overall supply chain of a firm because of its huge carrying cost, which indirectly eats away the profits. It consists of the cost of financing the inventory, insurance, storage, losses, damages, and pilferage. The average cost of carrying inventory varies from 10 to 25 percent of the total inventory per year depending on the products.

**Warehousing**

Warehousing is the storing of finished goods until they are sold. It plays a vital role in logistics operations of a firm. The effectiveness of an organization’s marketing depends on the appropriate decision on warehousing. In today’s context, warehousing is treated as switching facility rather than a storage of improper warehousing management. Warehousing is the key decision area in logistics. The major decisions in warehousing are:

* Location of warehousing facilities
* Number of warehouses
* Size of the warehouse
* Warehouse layout
* Design of the building

**Transportation**

For movement of goods from the supplier to the buyer, transportation is the most fundamental and important component of logistics. When an order is placed, the transaction is not completed till the goods are physically moved to the customer’s place. The physical movement of goods is through various transportation modes. In logistics costs, its share varies from 65 to 70 percent in the case of mass-consumed, very low unit-priced products.

Firms choose the mode of transportation depending on the infrastructure of transportation in the country or region. Cost is the most important consideration in the selection of a particular mode of transport. However, sometimes urgency of the good at the customer end overrides the cost consideration, and goods are sent through the fastest mode, which is an expensive alternative.

**Material handling and storage system**

The speed of the inventory movement across the supply chain depends on the material handling methods. An improper method of material handling will add to the product damages and delays in deliveries and incidental overheads. Mechanization and automation in material handling enhance the logistics system productivity. Other considerations for selection of a material handling system are the volumes to be handled, the speed required for material movement and the level of service to be offered to the customer.

The storage system is important for maximum space utilization (floor and cubic) in the given size of a warehouse. The material handling system should support the storage system for speedy movement (storage and retrieval) of goods in and out of the warehouse.

**Logistical packaging**

Industrial packaging is a critical element in the physical distribution of a product, which influences the efficiency of the logistical system. It differs from product packaging, which is based on marketing objectives. However, logistical packaging plays an important role in damage protection, case in material handling and storage space economy. The utilization of load has a major bearing on logistical packaging with regard to the packaging cost.

**Distributors of KRS**

Some of the distributors of KRS are;

* New Silver Line – Calicut
* Express Marketing – Calicut
* A V Marketing – kasargode
* Ashik Traders – Kannur
* Loft distributors – kasargode
* Kadasserey Marketing – Kondotty
* Nasim Agencies – Manjery
* A Co – Kottakal
* Metro – Perinthalmanna
* Continental distributors – valanchery
* Unity – Pattambi
* Golden Marketing – Mannarkad
* IT Traders –Vandoor

**ORGANIZATION CHART**

CHAIRMAN AND MANAGING DIRCTOR

V K MOIDOOHAJEE

EXECUTIVE DIRECTOR

C P KUNHIMUHAMED

REGIONAL MANAGERS

DIRECTOR

NASLYMUHAMMED

DIRECTOR (MARKETING) JITHINMOHEMMED

DIRECTOR (OPERATION) AJU MOHAMMED

DIRECTOR

RAMEEZMOIDU

AREA MANAGERS

JOINT MANAGING DIRECTOR

M K SIRAJ

GENERAL MANAGERS

K S SAJI, K KUNHALI

CHIEF EXECUTIVES

M KUNHABDULLA, K V SALIM

.**Reverse logistics process in KRS**

This is the reverse logistics process of KRS. Here, actually the reverse logistics process begins at distributors. Up to distributors is usual logistics process, from distributors reverse logistics process starts and ends with dumping yard.

Distributors

Collection center

Inspection officer

Manufacturer

KRS warehouse

KRS warehouse

Dumping yard

**REASONS FOR REVERSE LOGISTICS IN KERALA ROADWAYS**

* Return sent to manufacturer for repairs or re-filling
* Reusable containers or packages
* Return of input not used by the manufacturer or goods not sold by distributors
* Exchange of new product for the old ones
* Goods sent for Up-Gradation or modification
* Recycling of product
* Return sent to manufacturer for repairs or re-filling

One of the important reasons for reverse logistics in KRS is that repairs or re-filling. The empty and reusable containers are return back to the manufacturers and also the failure of products also return back to the manufacturers.

* Damaged goods

One of the main reason for return of goods is its damage. The goods damages are happen at the time of loading and unloading. So the goods are needed to send back the manufacturer.

* Expiry of goods

The expiry of the goods means sometimes the goods are not fully sold

* Reusable containers or packages

The empty reusable containers and packages used for transaction of goods were sent back to the manufacturers for transportation.

* Return of input not used by the manufacturer or goods not sold by distributors.

Another main reason for reverse logistics is that unused goods. They are sending back to the unused goods to the manufacturers that they can make to a reusable product.

* Exchange of new product for the old ones

Another reverse of goods happens in the case of exchange of new product with old ones. It’s the kind of replacement of product.

* Goods sent for Up-Gradation or modification

sometimes the good are send back to the manufacturers for up- gradation or modification. Because certain times the goods are needed to better modification so they are send back to the goods so they are send back to the manufacturers.

* Recycling of product

Recycling of product deals with the resending of goods to the manufactures, they use the products for making new products.

**CHAPTER – IV**

**DATA ANALYSIS AND INTERPRETATION**

**TABLE NO. 4.1**

**CLASSIFICATION OF GENDER OF RESPONDENTS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Male | 70 | 70 |
| Female | 30 | 30 |
| **Total** | **100** | **100** |

**Source: Primary data**

**CHART NO. 4.1**

**CLASSIFICATION OF GENDER OF RESPONDENTS**

**Interpretation**

Table No. 4.1shows that 70% of the respondents are male and 30% of the respondents are female.

**TABLE NO.4.2**

**CLASSIFICATION OF AGE OF RESPONDENTS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Below 25 | 20 | 20 |
| 26-30 | 40 | 40 |
| 31-40 | 24 | 24 |
| Above 41 | 16 | 16 |
| **Total** | **100** | **100** |

**Source: Primary data**

**CHART NO.4.2**

**CLASSIFICATION OF AGE OF RESPONDENTS**

**Interpretation**

Table No. 4.2 shows that 20% of the respondents are in the age of below 25, 40% of the respondents are in the age of 26-30 years, 24% of the respondents are in the age of 30-40 years and 16% of the respondents are in the age of above 41 years.

**TABLE NO.4.3**

**OCCUPATION**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Business | 4 | 4 |
| Public | 32 | 32 |
| Private | 14 | 14 |
| Doctor | 16 | 16 |
| Engineer | 8 | 8 |
| Others | 26 | 26 |
| **Total** | **100** | **100** |

**Source: Primary data**

**CHART NO.4.3**

**OCCUPATION**

**Interpretation**

Table No.4.3 shows that 4% of the respondents are business person, 32% of the respondents are public employee, 14% of the respondents are private employee, 16% of the respondents are doctor, 26% of them are from other occupational group and 8% of the respondents are engineers.

**TABLE NO. 4.4**

**INFLUENCED FACTOR IN THE SELECTION OF KRS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Freight rate | 8 | 8 |
| Speed | 16 | 16 |
| Safety | 30 | 30 |
| Area network | 8 | 8 |
| Goodwill | 36 | 36 |
| Others | 2 | 2 |
| **Total** | **100** | **100** |

**Source: Primary data**

**CHART NO.4.4**

**INFLUENCED FACTOR IN THE SELECTION OF KRS**

**Interpretation**

Table No. 4.4 shows that 8% of the respondents say that they are influenced by freight rate of the company, 16% of the respondents influenced by speed, 30% of the respondents influenced by safety, 8% of the respondents because of area, 36% of the because of goodwill and 2% of the respondents say that they are influenced by other factors.

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Newspaper | 10 | 10 |
| Media | 18 | 18 |
| Friends | 27 | 27 |
| Relatives | 45 | 45 |
| Others | 0 | 0 |
| **Total** | **100** | **100** |

**Table 4.5**

**SOURCE OF KNOWLEDGE ABOUT THE SHOP**

**Source: Primary data**

**Chart 4.5**

**SOURCE OF KNOWLEDGE ABOUT THE SHOP**

**Interpretation**

From the above table it is analyzed that, 45% of the respondents say they get knowledge about the shop from their relatives, 27% of them from their friends, 18% of them from media and only 10% of them got information about the shop from newspaper.

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Non branded | 33 | 33 |
| Branded | 54 | 54 |
| Others | 13 | 13 |
| **Total** | **100** | **100** |

**Table 4.6**

**PREFERRED TYPE OF GOODS**

**Source: Primary data**

**Chart 4.6**

**PREFERRED TYPE OF GOODS**

**Interpretation**

From the above table it is analyzed that, 54% of the respondents prefer branded goods while 33% of them prefer non branded. 13% of them prefer other type of goods.

**Table 4.7**

**SATISFIED WITH THE FREIGHT RATE OF KRS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Yes | 92 | 92 |
| No | 8 | 8 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.7**

**SATISFIED WITH THE FREIGHT RATE OF KRS**

**Interpretation**

Out of 100 respondents 92% of the respondents satisfied with the freight rate if KRS. 8% of them dissatisfied with the freight rate of KRS.

**Table 4.8**

**DID YOU SUFFER FROM ANY DAMAGES UNDER THE SERVICE PROVIDED BY KRS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Yes | 0 | 0 |
| No | 100 | 100 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.8**

**DID YOU SUFFER FROM ANY DAMAGES UNDER THE SERVICE PROVIDED BY KRS**

**Interpretation**

The entire respondents said that they never suffer from any damaged under the service provided by KRS.

**Table 4.9**

**SATISFIED WITH THE STORAGE FACILITY OF KRS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Yes | 85 | 85 |
| No | 15 | 15 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.9**

**SATISFIED WITH THE STORAGE FACILITY OF KRS**

**Interpretation**

Table no.4.96 shows that 85% of the respondents satisfied with the storage facility of KRS. 15% of them dissatisfied with it.

**Table 4.10**

**OPINION ABOUT SPEED OF SERVICE**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| High speed | 16 | 16 |
| Moderate | 73 | 73 |
| Low speed | 11 | 11 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.10**

**OPINION ABOUT SPEED OF SERVICE**

**Interpretation**

The above table shows that, 73% of respondents said that the service has moderate speed. 16% agree that it has high speed and 11% say that the service has low speed.

**Table 4.11**

**OPINION ABOUT KRS STAFF AND AGENCY**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. Of Respondents** | **Percentage** |
| Very good | 63 | 63 |
| Good | 18 | 18 |
| Fare | 14 | 14 |
| Poor | 5 | 5 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.11**

**OPINION ABOUT KRS STAFF AND AGENCY**

**Interpretation**

The table shows that,63% of the respondents rate very good for KRS and agency. 18% rate good, 14% rate fare and 5% of them rate poor for KRS and agency.

**Table 4.12**

**DO YOU MAKE USE OF ANY OTHER PARCEL SERVICE SYSTEM**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Yes | 56 | 56 |
| No | 44 | 44 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.12**

**DO YOU MAKE USE OF ANY OTHER PARCEL SERVICE SYSTEM**

**Interpretation**

Table no.4.12 shows that 56% of the respondents use other parcel service system and 44% of them didn’t use other parcel services.

**Table 4.13**

**OPINION ABOUT TIME TAKEN FOR THE SETTLEMENT OF CLAIMS**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Very long | 23 | 23 |
| Moderate | 42 | 42 |
| Quick | 35 | 35 |
| **Total** | **100** | **100** |

**Chart 4.13**

**OPINION ABOUT TIME TAKEN FOR THE SETTLEMENT OF CLAIMS**

**Interpretation**

The table shows that 35% of the respondents agree that the settlement of claims is quick, 42% moderate and 23% of them said that the settlement for claims take very long time.

**Table 4.14**

**RATE THE OPERATING ENVIRONMENT**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Highly satisfied | 20 | 20 |
| Satisfied | 36 | 36 |
| Neutral | 27 | 27 |
| Dissatisfied | 10 | 10 |
| Highly dissatisfied | 7 | 7 |
| **Total** | **100** | **100** |

**Chart 4.14**

**RATE THE OPERATING ENVIRONMENT**

**Interpretation**

Table no.4.14 shows that 36% of the respondent satisfied with the operating environment of the company. 27% of them have neutral opinion, 20% of the respondent highly satisfied, 10% dissatisfied and 7% of them highly satisfied with the statement.

**Table 4.15**

**SATISFACTION TOWARDS THE LOCATION**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Highly satisfied | 50 | 50 |
| Satisfied | 30 | 30 |
| Neutral | 20 | 20 |
| Dissatisfied | 0 | 0 |
| Highly dissatisfied | 0 | 0 |
| **Total** | **100** | **100** |

**Chart 4.15**

**SATISFACTION TOWARDS THE LOCATION**

**Interpretation**

Out of 100 respondents 50% of the respondents highly satisfied with the location of the company. 30% of them satisfied and 20% of the respondents have neutral opinion towards the location of the company.

**Table 4.16**

**SATISFACTION ABOUT THE OPERATING HOURS**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Highly satisfied | 80 | 80 |
| Satisfied | 5 | 5 |
| Neutral | 12 | 12 |
| Dissatisfied | 1 | 1 |
| Highly dissatisfied | 2 | 2 |
| **Total** | **100** | **100** |

**Chart 4.16**

**SATISFACTION ABOUT THE OPERATING HOURS**

**Interpretation**

Table no.4.15 shows that 80% of the respondents highly satisfied with the operating hours of the company. 12% have neutral opinion and 5% of them satisfied.

**Table 4.17**

**OPINION ABOUT CUSTOMER CARE SERVICES**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Highly satisfied | 60 | 60 |
| Satisfied | 22 | 22 |
| Neutral | 10 | 10 |
| Dissatisfied | 8 | 8 |
| Highly dissatisfied | 0 | 0 |
| **Total** | **100** | **100** |

**Chart 4.17**

**OPINION ABOUT CUSTOMER CARE SERVICES**

**Interpretation**

Above table shows that 60% of the respondents highly satisfied with the customer care services provided by the company. 22% satisfied with it while 10% of the respondents have neutral opinion. 8% of the respondent dissatisfied with it.

**Table 4.18**

**OPINION ABOUT IF THERE WERE A COMMON VOCABULARY AND DATA SETS RELATED TO REVERSE LOGISTICS THAT WERE STANDARDIZED ACROSS COMPANIES AND DIVISIONS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Yes | 60 | 60 |
| No | 40 | 40 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.18**

**OPINION ABOUT IF THERE WERE A COMMON VOCABULARY AND DATA SETS RELATED TO REVERSE LOGISTICS THAT WERE STANDARDIZED ACROSS COMPANIES AND DIVISIONS**

**Interpretation**

Table no.4.18 shows that 60% of the respondent agree with the statement and rest of the 40% didn’t agree with it.

**Table 4.19**

**DO YOU BELIEVE THAT HAVING A SPECIFIC COMMITTEE TO MANAGE THESE DEFINITIONS WOULD BE THE PROPER WAY TO APPROACH THIS**

|  |  |  |
| --- | --- | --- |
| **Category** | **No. of respondents** | **Percentage** |
| Yes | 100 | 100 |
| No | 0 | 0 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.19**

**DO YOU BELIEVE THAT HAVING A SPECIFIC COMMITTEE TO MANAGE THESE DEFINITIONS WOULD BE THE PROPER WAY TO APPROACH THIS**

**Interpretation**

The entire respondents agree that having a specific committee to manage definitions would be the proper way to approach this.

**Table 4.20**

**DO YOU AGREE THAT FREIGHT HAVE SECURED IN KRS**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Strongly agree | 60 | 60 |
| Agree | 22 | 22 |
| Can’t say | 10 | 10 |
| Disagree | 8 | 8 |
| Strongly disagree | 0 | 0 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.20**

**DO YOU AGREE THAT FREIGHT HAVE SECURED IN KRS**

**Interpretation**

Above table shows that 60% of the respondents strongly agree that their freight has secured in KRS. 22% agree with the statement, 10%have neutral opinion and 8% of them disagree with it.

**Table 4.21**

**SATISFIED WITH THE DELIVERY SYSTEM OF KRS**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Highly satisfied | 75 | 75 |
| Satisfied | 20 | 20 |
| Neutral | 5 | 5 |
| Dissatisfied | 0 | 0 |
| Highly dissatisfied | 0 | 0 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.21**

**SATISFIED WITH THE DELIVERY SYSTEM OF KRS**

**Interpretation**

Out of 100 respondents 75% of the respondents highly satisfied with the delivery system of KRS. 20% of them satisfied with the delivery system and 5% of the respondents have neutral opinion.

**Table 4.22**

**WHAT CHANGES WOULD HAVE TO MADE TO COMPANY’S CURRENT PROCESS AND SYSTEM IN ORDER TO ACHIEVE SUCH COST SAVINGS AND OTHER BENEFITS**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| IT systems | 45 | 45 |
| Customer support | 26 | 26 |
| Web portal services | 12 | 12 |
| Warrnenty management | 7 | 7 |
| Product inspection | 5 | 5 |
| Shipping | 5 | 5 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.22**

**WHAT CHANGES WOULD HAVE TO MADE TO COMPANY’S CURRENT PROCESS AND SYSTEM IN ORDER TO ACHIEVE SUCH COST SAVINGS AND OTHER BENEFITS**

**Interpretation**

Out of 100 respondents 45% respondents think that changes in IT systems might help them. 26% say that they should improve customer support, 12% think that web portal services,7% thinks warrnenty management and 5% each think that company should improve product inspection and shipping.

**Table 4.23**

**OPINION ABOUT OVERALL PERFORMANCE**

|  |  |  |
| --- | --- | --- |
| **Basis** | **No. of respondents** | **Percentage** |
| Highly satisfied | 40 | 40 |
| Satisfied | 30 | 30 |
| Neutral | 16 | 16 |
| Dissatisfied | 10 | 10 |
| Highly dissatisfied | 4 | 4 |
| **Total** | **100** | **100** |

**Source: Primary data**

**Chart 4.23**

**OPINION ABOUT OVERALL PERFORMANCE**

**Interpretation**

Table no.4.23 shows that 40% of the respondents highly satisfied with the overall performance of the company.30% satisfied, 16% have neutral opinion and 10% of them dissatisfied with it. 4% of the respondents highly dissatisfied with the statement.

**TABLE 4.24**

**OPINION ABOUT THE REVERSE LOGISTICS STRATEGY OF KRS**

|  |  |  |
| --- | --- | --- |
| **Particulars** | **Number of Respondents** | **Percentage** |
| Very good | 48 | 48 |
| Good | 39 | 39 |
| Fare | 9 | 9 |
| Poor | 4 | 4 |
| **Total** | **100** | **100** |

**Source: Primary data**

**TABLE 4.24**

**OPINION ABOUT THE REVERSE LOGISTICS STRATEGY OF KRS**

**Interpretation**

Above table shows that 48% of the respondents rate very good for the reverse logistics strategy of KRS. 39% rate good, 9% rate fare and 4% of them rate poor.

**TABLE 4.25**

**OPINION ABOUT THE TRACKING AND TRACING STRATEGY**

|  |  |  |
| --- | --- | --- |
| **Particulars** | **Number ofRespondents** | **Percentage** |
| Very good | 95 | 95 |
| Good | 5 | 5 |
| Fare | 0 | 0 |
| Poor | 0 | 0 |
| **Total** | **100** | **100** |

**Source: Primary data**

**TABLE 4.25**

**OPINION ABOUT THE TRACKING AND TRACING STRATEGY**

**Interpretation**

Out of 100 respondents 95% of the respondents rate very good for the tracking and tracing strategy of the company. 5% of them rate good.

**TABLE 4.26**

**OPINION ABOUT THE TRACKING AND TRACING STRATEGY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Particulars** | **Highly satisfied** | **Satisfied** | **Neutral** | **Dissatisfied** | **Highly dissatisfied** | **Total** |
| Rules& Regulation | 65 | 15 | 20 | 0 | 0 | **100** |
| Tracking & Tracing | 90 | 10 | 0 | 0 | 0 | **100** |
| Communication & Delivery | 36 | 22 | 40 | 2 | 0 | **100** |

**Source: Primary data**

**TABLE 4.26**

**OPINION ABOUT THE TRACKING AND TRACING STRATEGY**

**Interpretation**

Table no.4.26 shows that Majority of the respondents highly satisfied with the rules & regulations of the company. Most of them highly satisfied with the tracking and tracing system while most of them have neutral opinion on the communication and delivery process of the company.

**CHAPTER – V**

**FINDINGS, SUGGESTIONS AND CONCLUSION**

**5.1 FINDINGS**

* Most of the respondents are male.
* 40% of the respondents are in the age of 26-30 years.
* Majority of the respondents are public employee,
* Most of the respondents influenced by safety
* 45% of the respondents say they get knowledge about the shop from their relatives
* Majority of the respondents prefer branded goods
* 92% of the respondents satisfied with the freight rate if KRS.
* The entire respondents said that they never suffer from any damaged under the service provided by KRS.
* Most of the respondents satisfied with the storage facility of KRS.
* Majority of respondents said that the service has moderate speed.
* 63% of the respondent’s rate very good for KRS and agency.
* Most of the respondents use other parcel service system.
* 42% moderate opinion that the settlement of claims is quick.
* Majority of the respondent satisfied with the operating environment of the company.
* Out of 100 respondents 50% of the respondents highly satisfied with the location of the company.
* 80% of the respondents highly satisfied with the operating hours of the company.
* Most of the respondents highly satisfied with the customer care services provided by the company.
* 60% of the respondent agree that if there were a common vocabulary and data sets related to reverse logistics that were standardized across companies and divisions.
* The entire respondents agree that having a specific committee to manage definitions would be the proper way to approach this.
* Most of the respondents strongly agree that their freight has secured in KRS.
* 75% of the respondents highly satisfied with the delivery system of KRS.
* 45% respondents think that changes in IT systems might help them.
* 40% of the respondents highly satisfied with the overall performance of the company.
* Majority of the respondent’s rate very good for the reverse logistics strategy of KRS.
* 95% of the respondent’s rate very good for the tracking and tracing strategy of the company.
* Majority of the respondents highly satisfied with the rules & regulations of the company. Most of them highly satisfied with the tracking and tracing system while most of them have neutral opinion on the communication and delivery process of the company.

**5.2 SUGGESTIONS**

Proper transportation should be provided to their customer in reverse logistics. Most of the customers facing transportation as a major issue.

KRS have to make some changes in their reverse logistics practices. Most the customers want change with their existing system.

Transportation is one of the major areas, where change should be needed. 36% of the customers want change in transportation.

The reverse logistics systems of KRS have to upgrade. 25% of the customers rated as average.

Collection center should be near to their customers place. Because many of them say that the collection centers are far from their place.

Enough packing cases should be given to their customers. Many customers facing packing as an issue in reverse logistics.

Few customers are not satisfied with KRS. KRS have study the reasons, and resolve it.

11% of the customers not satisfied with collection centers of KRS. It should be improved for better customer retention.

63% of the customers expect some changes and improvements. KRS should do the same.

Transportation and collection centers are the mostly improvement expected area. Thus, necessary changes should be made.

**5.3 CONCLUSION**

The study shows about the logistics industry and reverse logistics in reference with Kerala roadways (P) Ltd. The study shows the reverse logistics systems, barriers, uses and reasons about KRS. The surveys and analysis has given some findings and observations. The study identified the main reasons for the reverse logistics in KRS. Expiry and damage of goods are the major reason for the reverse supply chain reasons, because food products are only allowed 1 year expiry. The reason for the damaged products could be loading and unloading of goods. Up to 73% of the goods were returned as expired goods, rest of the as damage and repairs. Lion share of the products are reversed for dumping purpose only. They won’t reuse or recycle it. Major problems or issues related with reverse logistics of KRS are packing and transportation of goods. KRS customers are much satisfied about their services, because most of their customers have been with them for more than 9 years. Even though, most of customers expect changes and improvements in all areas of KRS. Distance from warehouse to delivery is another issue pointed by the customers, but mostly KRS has more than 3 or 4 warehouses in each cities and districts.

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**QUESTIONNAIRE**

RESPECTED SIR/MADAM

I RAJIV R MENON an , mba student pursuing my course from easa college of engineering and technology palakkad main road, navakkarai(po) Coimbatore , on the topic ” A STUDY ON REVERSE LOGISTICS IN KRSPVT LTD”, I kindly request you to spare you that valuable time to fill the questions. I assure you that the information given will be strictly used for academic purpose only.

1. **Personal details:**
2. Name :
3. Gender :
4. Male
5. Female
6. Age :
7. Below 25 Yrs
8. 26-30Yrs
9. 31-40Yrs
10. Above 41 Yrs
11. Field of occupation :
12. Business
13. Public
14. Private
15. Doctor
16. engineer
17. others
18. What are the factors influenced you in the selection of KRS:
19. Freight rate
20. Speed
21. Safety
22. Area network
23. Goodwill
24. Others
25. How did you come to know about the shop?
26. Newspaper
27. Media
28. Friends
29. Relatives
30. Other
31. What type of goods you prefer?
32. Non branded
33. Branded
34. Others
35. Are you satisfied with freight rate of KRS?
36. YES
37. NO
38. Are you satisfied with the storage facility of KRS?
39. YES
40. NO
41. What is your opinion about speed of service?
42. High speed
43. Moderate
44. Low speed
45. What is your opinion about KRS staff and agency?
46. Very good
47. Good
48. Fare
49. Poor
50. Do you make use of any other parcel service system?
51. YES
52. NO
53. What is your opinion about the time taken for the settlement of claims?
54. Very long
55. Moderate
56. Quick
57. How you rate the operating environment in this company?
58. Highly satisfied
59. Satisfied
60. Neutral
61. Dissatisfied
62. Highly dissatisfied
63. State your degree of satisfaction towards the location of company?
64. Highly satisfied
65. Satisfied
66. Neutral
67. Dissatisfied
68. Highly dissatisfied
69. Are you satisfied by the operating hours?
70. Highly satisfied
71. Satisfied
72. Neutral
73. Dissatisfied
74. Highly dissatisfied
75. What is your opinion about customer care service in KRS?
76. Highly satisfied
77. Satisfied
78. Neutral
79. Dissatisfied
80. Highly dissatisfied
81. Do you believe that there would be a benefit if there were a common vocabulary and data sets related to reverse logistics that were standardized across companies and divisions?
82. YES
83. NO
84. Do you believe that having a specific committee to manage these definitions would be the proper way to approach this?
85. YES
86. NO
87. Do you agree that your freight have secured in KRS?
88. Strongly agree
89. Agree
90. Can't say
91. Disagree
92. Strongly disagree
93. Are you satisfied with the delivery system of KRS?
94. Highly satisfied
95. Satisfied
96. Neutral
97. Dissatisfied
98. Highly dissatisfied
99. What changes would have to be made to company's current processes and systems in order to achieve such cost savings and other benefits?
100. IT systems
101. Customer support
102. Web portal service
103. Warrnenty management
104. Product inspection
105. Shipping
106. State your opinion about overall performance of KRSPVT LTD?
107. Highly satisfied
108. Satisfied
109. Neutral
110. Dissatisfied
111. Highly dissatisfied
112. State your opinion about the reverse logistics strategy of KRS?
113. Very good
114. Good
115. Fare
116. Poor
117. State your opinion about the tracking and tracing strategy of KRS?
118. Very good
119. Good
120. Fare
121. Poor

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Factors | **Highly**  **Satisfied** | **Satisfied** | **Neutral** | **Dissatisfied** | **Highly**  **Dissatisfied** |
| Rules & Regulation |  |  |  |  |  |
| Tracking & Tracing |  |  |  |  |  |
| Communication & Delivery |  |  |  |  |  |

1. Are you satisfied with the following factors ofKRS?
2. Suggestions to the organization: