A Conceptual Framework for Reverse Logistics in Online Shopping

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ABSTRACT

The main aim of this paper is to suggest a theoretical foundation for reverse logistics. In India, the e-commerce industry has seen rapid growth. The success of e-commerce customer experience now heavily depends on customer experience. For online retailers customer satisfaction is crucial as it gives them a measure to utilize, manage and grow their online businesses. Online shoppers in India struggle because of product returns. As a result, reverse logistics is essential to e-commerce in order to boost online shoppers' confidence in their purchasing decisions and customer satisfaction. There are, however, few studies that specifically address how reverse logistics impacts customer satisfaction in e-commerce. Online merchants need assistance from reverse logistics (RL) to manage product returns. There were two phases in this study'. At 1st phase the research aims to help online retailers to minimize the return rate in online shopping by making them understand the customer buying and returning behavior of product with reasons and at 2nd phase the reverse logistics performance on customer satisfaction were measured to retain customers in online shopping Thus this research work proposes the conceptual framework.

Keywords: Reverse logistics, Online shopping, Product return reason, Customer satisfaction, RL Frame work

INTRODUCTION

Reverse Logistics:

Online retailers require help from reverse logistics to manage product returns. By satisfying consumer demands through reverse logistics, or the return policy in e-commerce, online retailers can enhance online shoppers' buying confidence, customer satisfaction, and reputation. The capability of the return policy to assist in recovering and managing service failures including substandard product quality and erroneous goods can help retain consumers, increase customer satisfaction, and nurture loyalty. In a highly competitive online environment, it can also be used to gain competitive advantages that can satisfy the consumer and win the customer's loyalty.

According to Alfonso-Lizarazo et al (2017), reverse logistics is known 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 or creating value or proper disposal".

In the B2C ecommerce model, the term of reverse logistics defined by American Reverse Logistics Executive Committee which is to retrieve the value of the product or make it appropriately handled, the process of moving the product from the consumer to the source (Li & Li, 2015). Reverse logistics refers to the return of products to sellers or manufacturers due to their problems or consumer dissatisfaction.

In recent years, reverse logistics has become an essential issue in e-commerce because it can generate revenue and meet the satisfaction of online customers. When a customer wishes to return a product, the online retailers must organize, retrieve, and then determine the outcome of the returned product and ship the new product to the customer. The considerable discrepancies between the actual product and the product description, as well as human errors on the part of online retailers, may be the cause of product returns. When customers are dissatisfied with the products, they may decide to return it or exchange it. Thus, clear return policies that can ensure the quality of the purchased product is needed and make consumers feel security when they received wrong items (EmyEzura A. Jalil, 2019). The technological advancements facilitated the progress of the Business-To-Consumer (B2C) e-commerce business tremendously. B2C e-commerce has several benefits such as saving costs by decreasing the use of resources, increasing profits, and competitive advantage, especially in the pandemic context. However, this opportunity comes with challenges, and one of such is related to a significant number of products that are returned to the vendor or manufacturer. These challenges in the Reverse Logistics' (RL) in the context of e-commerce become a new phenomenon– Reverse E-Logistics' (REL), because the product in the e-commerce is physical goods or electronic ones like videos, music, books, etc. This study focuses on identifying the most critical factors that impact REL performance and discusses how REL can affect its performance

Recovery Options

Recovery is one of the many processes in the reverse supply. The following are the classification of options to make use of if and how products that are returned are recovered. These include both direct and process recovery options.

- **Reuse** – the packaging is reused or a product is sent back for resale to another customer.

- **Repair/repackage** – where a moderate amount of repair and/or repacking will allow the product to be reused.

- **Recycling** – where the product is broken down and "mined" for components that can be reused or resold.

- **Reconditioning** – When a product is cleaned to its basic elements, which are reused.

- **Refurbishing** – Similar to reconditioning, except with perhaps more work involved in repairing the product.

- **Remanufacturing** – Similar to reconditioning, but requiring more extensive work; often requires completely disassembling the product.

- **Collection -** All logistical activities in the reverse supply chain aim to retrieve the products back from the market and transport them to the facilities for sorting, disposition, disassembly or recovery. This includes processes such as transportation, consolidation, transshipment and storage.

- **Sorting, Testing and Disposition -** Returned products need to be classified according to quality and composition in order to determine the route in the reverse supply chain. Market conditions and strategic considerations must be taken into account in the disposition decision.

- **Recovery -** This activity comprises the process of recovering value from the returned product by reusing, repairing, refurbishing, recycling or other type of recovery option. v. Re-distribution and Sales Basically, no value recovery can be had until the recovered products, component or materials are brought back into a forward supply chain.

(Source: Guldem Elmas, Fevzi Erdogmus Vol 3, No 1, 2011)

REVIEW OF LITERATURE:

- **Emy Ezura A .Jalil (2019)**, in their study claborated the relation between variables of situational factors and customer satisfaction towards RL in E-Commerce at KLANG VALLEY. Data were collected through online survey and paper survey with 400 respondents who had online shopping experience and results in giving positive contribution to online retailers by making them understanding customer needs and wants, by creating good return policy.

- **Jacobus D. Nel and Amanda Badenhorst (2020)**, proposed a conceptual framework for RL challenges in E-Commerce. Conceptual framework provides the blueprint to improve business performance also to address and manage some of the main challenges for online returns.

- **Erika Fatma, Winanda Kartika (2016)**, conducted research in 2 stages. At First stage , factors which drive consumers to return the purchased item were evaluated and in Second stage e-retailers effort to improve their reverse logistics performance were evaluated.

- **Minjeong Kang, Kim K.P. Johnson (2009)**, investigated the relationships between apparel return behaviour and fashion innovativeness, buying impulsiveness and considerations of return policies of US consumers. Datas are analyzed using pearson correlation and multiple linear regression analysis.

- **Qian Xiao Yan, Han Yong, Da Qinli, Peter stokes (2012)**, identified possibilities for application of reverse logistics network models to deal with returned products from customers in companies using e- business, its aim is to better facilitate the location of factories, online retailers and third party logistics in context of e-commerce.

- **Kuldip Singh Sangwan (2017)**, in their research found the different key performance indicators of reverse logistics and identified its variable.

- **Vida Davidaviciene, Mohamed AL Majzoub (2021)**, have found out the factors that impact REL, demographic variables and performance indicators of REL and its variables are identified.

- **O. Mathuthra, Dr. R. Aruljothi (2022)**, analysed the effect of online customer returns on the supply chain management and worked for the improvement in the effective working of the entire reverse logistics. They found that spending and purchasing behaviour on online shopping (e-retailing) is more than customary mortar and block store shopping is expanding.

- **J. Y. Hong, E. H. Suh & L. Y. Hou (2008)**, extracted the factors influencing the performance of reverse supply chains (RSCs) based on the structure equation model (SEM). They introduced the definition of RSC and describe its current status and follow this with a literature review of previous RSC studies and the technology acceptance model and then developed research model and 11 hypotheses and then use SEM to test their model and identify those factors that actually influence the success of RSC.

- **Elmas, G., & Erdoğmuş, F. (2011),** explored that many products, a customer's relationship with the product's manufacturer does not end with product purchase. In fact, this relationship can be significantly influenced by the activities that occur after purchase, during the entire

period of product ownership. After sales services can encompass multiple activities, including: customer support through training; product warranties; maintenance and repair; product upgrades; sales of complementary products; and product disposal. Management of these service activities can form an important part of corporate strategy. These activities management calls as Reverse Logistics. Reverse logistics operations are one of the more interesting and significant trends in supply chain management. In this paper are described that the concept of reverse logistics, the strategic importance of the reverse logistics and reverse logistics in the supply chain.

- **Srivastava, S. K., & Srivastava, R. K. (2006),** presented a framework to manage product returns for reverse logistics by focusing on estimation of returns for select categories of products in the Indian context. Design/methodology/approach–They developed a conceptual model and thereafter an integrated modeling framework borrowing from existing literature and industry practices. It utilizes product ownership data, average life cycle of products, past sales, forecasted demand and likely impact of environmental policy measures for estimating return.

- **Saarijärvi, H., Sutinen, U. M., & Harris, L. C. (2017),** identified 10 categories of online returning behavior that capture the reasons why consumers actually return items they have ordered online. These categories are further linked with when the decision to return ordered items emerges. Based on the results, managerial implications they provided to give guidance in managing online returning behavior.

- **Panousopoulou Pagona, Manthou, Vicky (2016)**, found that Performance Indicators (PIs) provide management with a tool to compare actual results with a pre-set target, and to measure the extent of any deviation. This tool is extremely important for forward logistics, as well as, reverse logistics. Reverse Logistics metrics are essential to managing and improving a Reverse Logistics operation, both for companies and third party Reverse Logistics service providers. Performance indicators are something new in many business areas, and in the field of Reverse Logistics is something that hasn't been discussed much in the literature. In order for companies to be able to assess the success of reverse logistics channels or reverse logistics chain, performance indicators need to be identified and evaluated. Innovative reverse logistics services combined with these metrics, lead to a more responsive organization.

- **Jyoti, Neetu Gupta (2020),** in their study explored the reason of e-commerce returns, percentage of return in general, percentage of return in sales period, challenges with liberal policies of e-commerce, monetary loss due to returns are identified and return reasons variables are taken.

OBJECTIVES:

- To study the online purchase and return behavior of customers.

- To find the variables which affect reverse logistics in online shopping.

- To study the reason for return of goods by the customers.

- To measure the performance indicators of reverse logistics in online shopping with respect to customers.

NEED FOR THE STUDY:

- The need for this study is to help E-Retailers to minimize the product return in online shopping by understanding customer purchase & return behavior of product with reason for return.

- This study measures the variables for performance of RL with respect to customer satisfaction, it can be useful for E-Retailers to retain customers.

RESEARCH METHODOLOGY:

The respective study is based on secondary data collected from research articles, thesis and books. The method of research used is descriptive research method.

PHASE 1: Customer purchase and return behavior with reasons for product return:
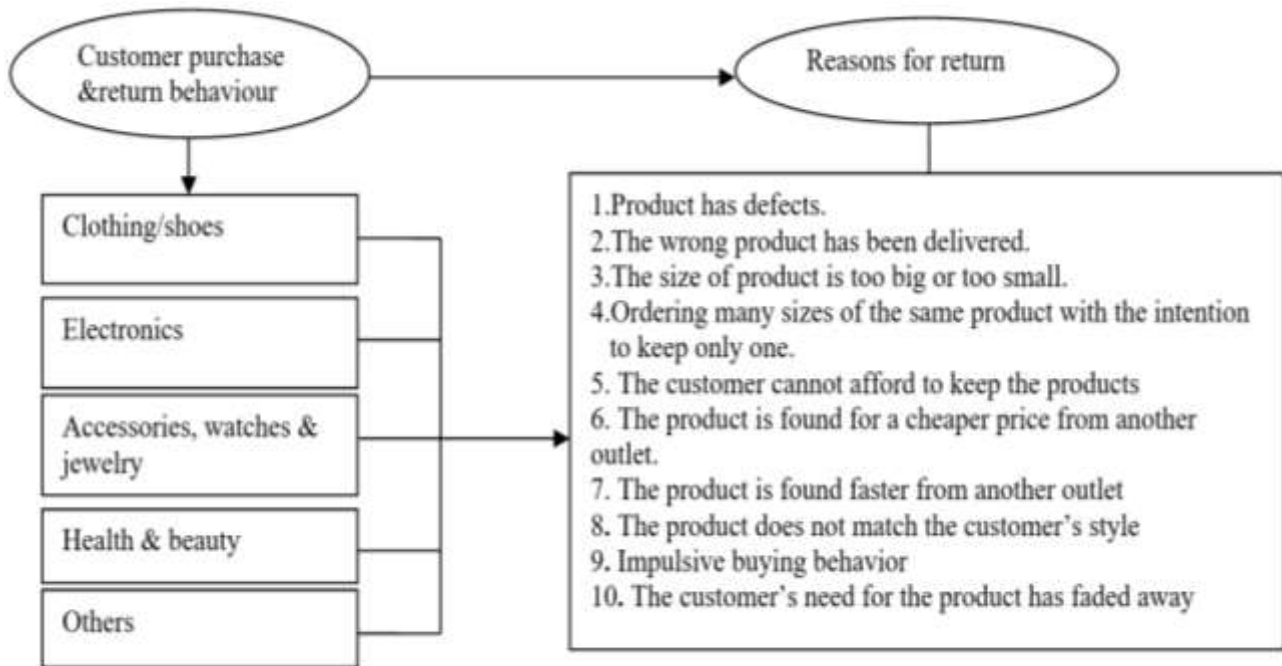
(source: HannuSaarijarvi, Ulla-MaijaSutinen and Lloyd C.Harris,Jyoti, Neetu Gupta)

Categories of online returning behaviour

On the basis of the exploration of the reasons and timing of returning behavior, the returning behavior can be grouped further into larger categories. These categories differ in terms of what fundamentally drives returning behaviour, i.e.whether returning was due to the defects in the product (reclamation), wrong products being delivered (order fulfilment), finding better post-order deals (competition), an unexpected feature of the product (disconfirmation), the wrong size (size chart), the product just not feeling quite right (feeling), not having the money for the ordered items (money shortage), ordering multiple items in order to find a suitable one (benefit maximization) or ordering to try the product out before purchasing it in the future from another outlet (just trying out).These categories can be further divided on the basis of whether online returning behavior is planned or unplanned (compare with Wachter et al. 2012) and whether it is consumer or other-initiated. Hence, as is depicted, the identified categories enrich the existing conceptualization of returning behavior into planned and unplanned, and provide a moregrounded basis to uncover the diversity of returning behavior. Further more, summarizes the key findings of the study by combining the categories of returning behaviour with the phases when the decision to return is made. As a whole, the figure provides a good basis for further discussion.

Reasons for Product Return

In the current scenario, minimizing the returns volume in the online sector is beyond the control of the retailer and manufacturer. Product category wise, apparels rank among the top, with a rate of return as high as 40 per cent, followed by electronics, footwear, fashion accessories and books. On the one hand, high returns erode the retailer's profitability which is evident from an industry study conducted by UPS which states that a retailer spends between 9 to 15 % of the total revenue to manage returns(KPMG, 2017). Customers value a seamless return process. According to KPMG reports, 40% of consumers browse through the return policy and process before placing items in the cart. (Walker Sands, 2016). Around 51% of the customer based in the USA and Europe states that ease of returns is vital for repurchasing from a particular website. (Kats, 2021). A poorly managed returns supply chain impacts customer retention and satisfaction. Thus, it is concluded that return handling as part of the post-purchase experience is a critical component of an organisation's success. (Coyle, Langley, Novack, & Gibson, 2012). It is an activity evoked from negative sentiments, demanding excellent service support to lower dissatisfaction. (Source: Retail & People, 2020).

1. **Product has defects**

Consumers return items due to the product having defects, e.g. bad sewing or inappropriate materials. (H. Saarijarvi et al).

2. **The wrong product has been delivered.**

The wrong product has been delivered, e.g. wrong colour, size or item. (H. Saarijarvi et al).

3. **The size of product is too big or too small**

The size of the product is not right even though the customer ordered exactly his or her size. (H. Saarijarvi et al).

4. Ordering many sizes of the same product with the intention to keep only one

The customer orders multiple products with the intention to keep only one or a few of them. (H. Saarijarvi et al).

5. The customer cannot afford to keep the products

The customer does not eventually have the money to keep all the ordered products or he/she is now willing to spend that much money on the ordered products. (H. Saarijarvi et al).

6. The product is found for a cheaper price from another outlet.

The customer finds the same product faster or cheaper from another outlet while waiting for the order to be delivered. (H. Saarijarvi et al).

7. The product is found faster from another outlet

The customer finds the same product faster or cheaper from another outlet while waiting for the order to be delivered. (H. Saarijarvi et al).

8. The product does not match the customer's style

For some reason, the customer does not feel 'right' when wearing the product. (H. Saarijarvi et al).

9. Impulsive buying behavior

People buying items without planning have increased considerably, More females are prone to Impulsive buying in Online shopping, People purchase without proper detail look for and finish up in product return.(Lim Pei Ling Rashad).

10. The customer's need for the product has faded away

At the time of the product delivery, the customer realizes that he/she does not actually need the ordered product after all. (H. Saarijarvi et al).

PHASE 2: RL PERFORMANCE MEASURE ON CUSTOMER SATISFACTION:
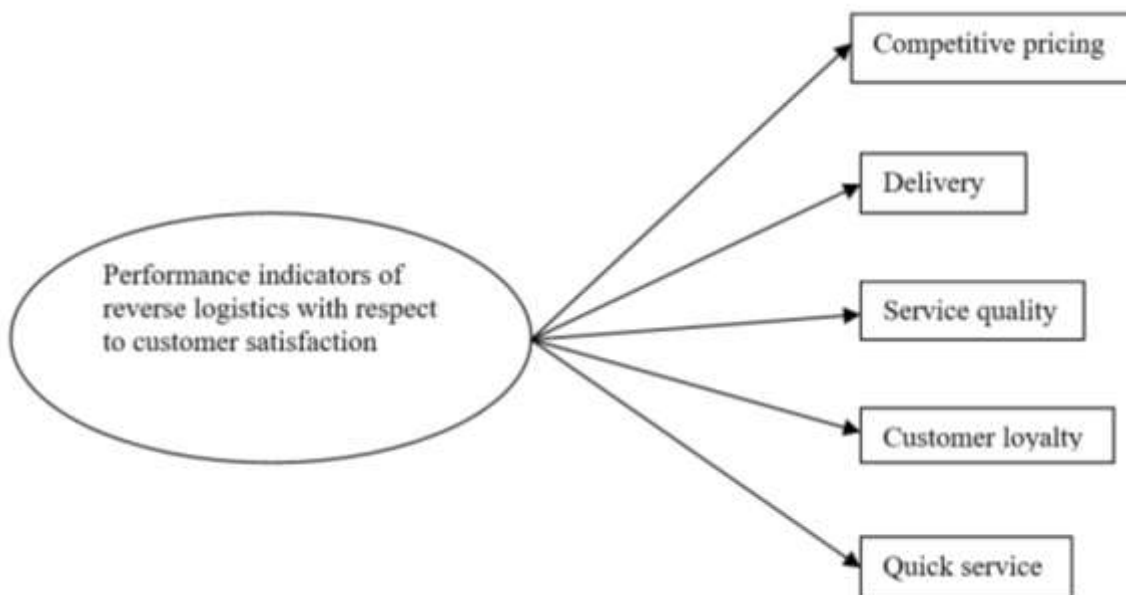
(Source: PanousopoulouPagona, Manthou, Vicky 2016)

RL PERFORMANCE MEASURE ON CUSTOMER SATISFACTION:

There has been a general acceptance of relations of service quality with improved supply chain

Performance (Nitin et al. 2006). As customers become increasingly sophisticated in their purchasing decisions and environmental laws take root, many companies will seek new ways to develop or enhance return systems, in order to achieve customer satisfaction. On the other hand, customer's satisfaction leads to customer loyalty. which is actually the result of an organization creating a benefit for a customer, so that they will maintain or increase their purchases from the organization.

There are many factors that affect customer satisfaction. Li and O Brien (1999) proposed a model to

improve supply chain efficiency and effectiveness based on four criteria: profit, lead-time performance, delivery Promptness and waste elimination. Beamon (1999) suggested a system of three dimensions: resources (i.e. efficiency of operations), output (i.e. high level of customer service), and flexibility (i.e. ability to respond to extraordinary customer services requests). Aramyan et al.. (2007) has developed a framework for reverse logistics chain performance indicators. which are grouped into four main categories: efficiency, flexibility, responsiveness, traceability.

According to wisner (2003), customer satisfaction is affected by the behavior of the employees (courteous, knowledgeable. helpful), accuracy of billing. billing timeliness, competitive pricing. service quality, delivery, good value, billing clarity, quick service and flexibility. For the majority of customers quality comes first. Prompt delivery, extra costs and information regarding the available reverse logistic services affect the quality of the reverse logistic services. The customer must obtain sanctions and approvals for the payout, as well as answers to questions in the process, since price escalations irritate customers (Barber, 2008)

VARIABLES IDENTIFIED:

a) Reasons for product return

1.Product has defects.

2.The wrong product has been delivered.

3.The size of product is too big or too small.

4.Ordering many sizes of the same product with the intention to keep only one.

5. The customer cannot afford to keep the products

6. The product is found for a cheaper price from another outlet.

7. The product is found faster from another outlet

8. The product does not match the customer's style

9. Impulsive buying behavior

10. The customer's need for the product has faded away

b) RL Performance on customers satisfaction

1. Competitive pricing

2. Delivery

3. Service quality

4. Customer loyalty

5. Quick service

CONCEPTUAL FRAMEWORK
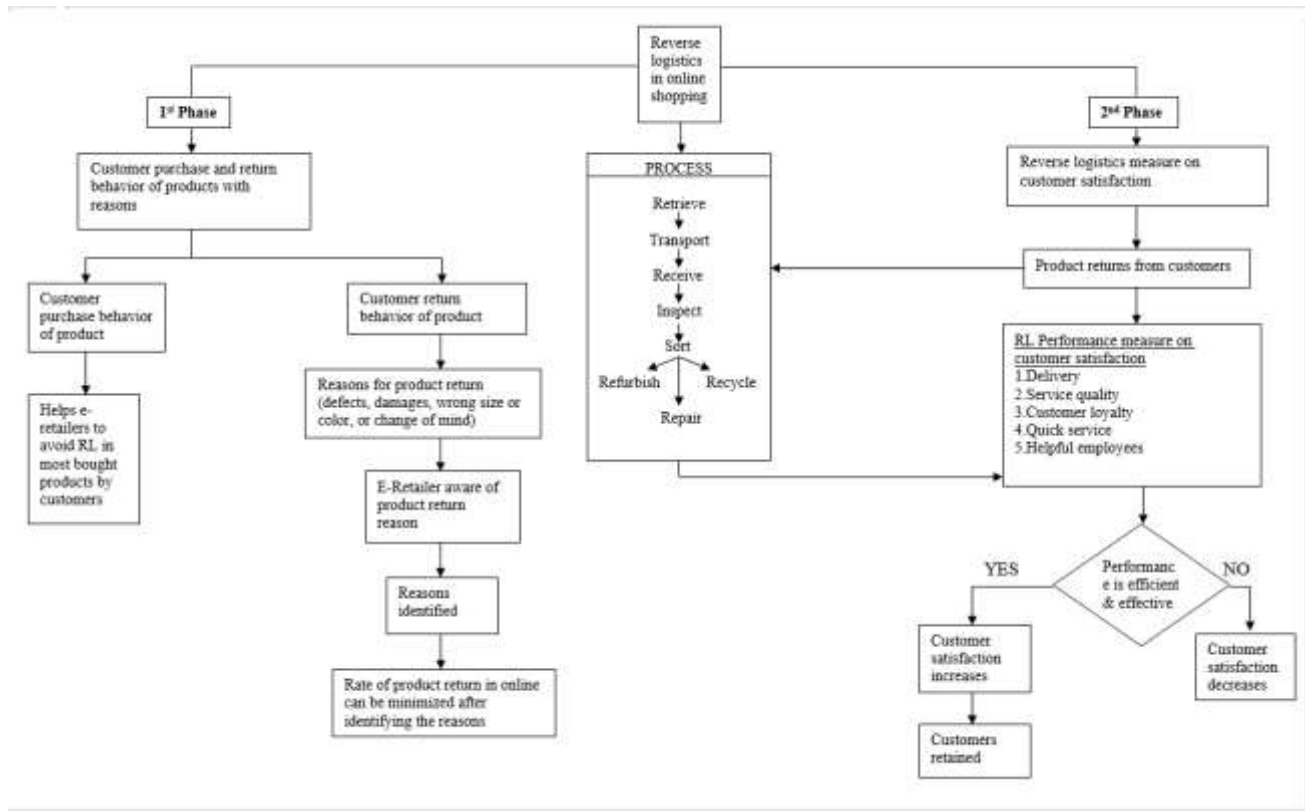
CONCLUSION:

The high number of on-line customer returns is one of the major problems of the e-commerce industry today and if it is repeated the company may lose the customer and its profit margin and its brand image too. The return management presents both challenges and opportunities to all the e-commerce companies. Handling these returns quickly and efficiently increases the customer satisfaction, customer loyalty and value recovery for these companies. It is quite tough for reverse logistics management team to work effectively without the customer's involvement. Understanding the customer's mind set and their responses remain one of the major challenges to return management and SCM, especially for all the e-commerce companies. All these ecommerce companies should have a streamlined returns and repair management policies. Effective implementation of these policies will transform them more competitive in this dynamic market place. Though a company may lose its profits because of customer on-line returns, but it is of paramount importance to address these returns and keep the customer satisfied. Hence, it becomes very important for a company to know the reasons behind the customer returns and take informed decisions accordingly to improve their revenues.

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