



A Study on Consumer Perception Towards Reverse Logistics

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ABSTRACT :

This study examines how consumers perceive product returns and other reverse-logistics activities carried out by companies. Reverse logistics deals with the movement of products, components and materials from the customer back towards the seller, manufacturer or another point in the supply chain for return, reuse, repair, refurbishment, recycling or other forms of recovery. The ease of returning a product, speed of processing, clarity of return policies, customer support and environmental practices can influence how consumers view a company. The study considers consumer views on the convenience and efficiency of return processes, preferred return facilities, awareness of environmental benefits, customer-service assistance, response time, preferred support channels and clarity of return policies, together with five Consumer Perception Towards Reverse Logistics (CPRL) statements on positive perception, trust, purchase intention, recommendation and preference. A descriptive research design was used, and primary data were collected through a structured questionnaire from 80 respondents. Percentage analysis, a chi-square test and one-way ANOVA were used to analyse the responses. Home pickup was the most preferred return facility (62.5%), fast processing was the leading factor making a return convenient (40.0%), and phone support was the most preferred support channel (52.5%). The chi-square test did not show a statistically significant association between gender and perceived ease of the return process ($p = 0.166$), and the one-way ANOVA did not show a significant difference in mean CPRL score across age groups ($p = 0.195$). The findings indicate that convenience, timely processing, clear communication and responsive support are important to respondents, while the results should be interpreted in light of the limited sample size.

Keywords: reverse logistics, consumer perception, product returns, return policy, customer service, e-commerce

1. Introduction

Reverse logistics is an important part of modern supply-chain management because the movement of goods does not always end when a product reaches the customer. It considers the flow of products, components, packaging and materials from the customer or point of use back to a seller, manufacturer, service centre, recovery facility or another suitable destination. These flows may arise from customer returns, defects, warranty claims, repairs, replacement, excess inventory, reusable packaging, recycling or the end of a product's useful life. The concept is closely connected with the idea of a circular economy: a returned product may be resold, repaired, refurbished, remanufactured, dismantled for usable parts or recycled, depending on its condition.

Consumer expectations have made reverse logistics increasingly important. Customers assess a purchase through the entire experience, from product information and ordering to delivery, after-sales support and return or replacement. The experience can be affected by the number of steps required to request a return, the availability of pickup or drop-off options, the time taken to collect the item, the clarity of refund conditions and the speed of communication. This issue is particularly visible in e-commerce, where consumers often buy without physically examining a product, so return arrangements become part of the service promise made by an online seller.

Return policy transparency and customer service also contribute to the perceived quality of reverse logistics. Customers need to understand the return period, the condition in which an item must be returned, who pays return transportation costs and how refunds or replacements are processed. A return may also involve questions about eligibility, collection scheduling, tracking or refund delays, and different consumers may prefer different support channels. The present study therefore examines customer responses to product-return processes and related reverse-logistics practices, and describes the views recorded from the respondents who participated.

Reverse logistics forms part of the wider logistics and supply-chain industry. It includes the collection of customer returns, damaged goods, recalled products, reusable packaging, excess stock, warranty items and products that have reached the end of their useful life. The process commonly moves through several linked stages: a return is requested, the item is collected or dropped off, it is inspected and sorted, and it is then returned to stock, repaired, refurbished, recycled or disposed of through an appropriate route. Retailers, courier firms, third-party logistics providers, manufacturers, warehouses and recovery organisations may all take part.

The growth of online shopping has increased the visibility of reverse logistics to consumers. Retail and e-commerce return systems may offer home pickup, drop-off points, store returns or courier-based returns, and no single method is best for every customer or product. Environmental responsibility is another influence, since reuse, repair, refurbishment and recycling can help recover value from returned products. In India, consumers interact with these services through e-commerce platforms, organised retail, courier networks and repair centres, and the exact process differs across companies and product categories.

Customers evaluate the part of the process they can observe: whether a return is easy to initiate, whether information is available, whether support is responsive and whether the promised resolution is completed. Understanding these perceptions helps describe which aspects of return management

respondents consider important. The study therefore provides a small-sample, customer-response view of consumer perception towards reverse logistics, and does not evaluate a specific company or claim to represent the entire Indian market.

2. Review of Literature

Carter and Ellram (1998) reviewed the reverse-logistics literature and established a framework for studying product flows back from customers and other downstream points. Their work provides an early foundation for understanding reverse logistics as a distinct logistics activity.

Pokharel and Mutha (2009) reviewed perspectives in reverse logistics, while Govindan, Soleimani and Kannan (2015) examined reverse logistics and closed-loop supply chains. These reviews frame reverse logistics as a broad field concerned with returns, recovery and the links between forward and reverse supply-chain activities.

Agrawal, Singh and Murtaza (2015) reviewed reverse-logistics research and perspectives, and Janakiraman, Syrdal and Freling (2016) examined how return-policy leniency affects consumer purchase and return decisions. Together, these works support the relevance of return arrangements to both product recovery and consumer-facing retail decisions.

Strivastava (2007) reviewed green supply-chain management, and Dabees et al. (2023) considered sustainable reverse-logistics service quality. These studies connect reverse logistics with environmental responsibility and service quality. The present study focuses specifically on consumer responses to return convenience, processing speed, customer support, policy clarity and environmental awareness among 80 respondents.

3. Objectives of the Study

Primary objective

To study consumer perception towards reverse logistics.

Secondary objectives

1. To understand consumer views regarding the ease and efficiency of product-return processes.
2. To identify the return facilities and return methods preferred by consumers, and the time they are willing to spend on returning a product.
3. To understand consumer awareness of the environmental benefits associated with reverse logistics.
4. To examine consumer views on customer-service assistance, response time and preferred support channels during product returns.
5. To understand consumer views on the clarity and important information contained in return policies.
6. To examine consumer perceptions relating to trust, purchase intention, recommendation and preference towards companies with efficient reverse-logistics systems.

4. Research Methodology

The study follows a descriptive research design to describe the characteristics, opinions and responses of a group of respondents without manipulating the study environment. Primary data were collected through a structured questionnaire containing five demographic questions, fifteen questions concerning reverse-logistics experiences and preferences, and five Likert-scale statements measuring consumer perception towards reverse logistics (CPRL). The sampling unit is an individual consumer, and the final sample comprised 80 respondents. Secondary information was drawn from books, academic literature and reliable online sources on reverse logistics, green supply-chain management, product recovery and closed-loop supply chains.

The analysis used percentage analysis to describe response distributions; the chi-square test to examine the association between gender and perceived ease of the product-return process; and one-way ANOVA to examine whether the mean CPRL score differs across age groups. Percentage = (number of respondents selecting a category / total number of valid respondents)

× 100, with a base of 80 respondents. The significance level used for both tests is 0.05.

Scope and limitations

The scope is limited to consumer perception as captured through the questionnaire; the study does not measure the operational performance of any individual company. The questionnaire was circulated to respondents available to the researcher, so the sample may not represent every region or consumer group. The sample of 80 respondents limits generalisation, the responses are self-reported, and some response categories in the data, such as "Option 5" and "Option 6", have been retained as recorded.

5. Results and Discussion

The primary data collected from 80 respondents were classified and analysed using frequency and percentage analysis, followed by the chi-square test and one-way ANOVA. The following tables present the profile of respondents and the questionnaire results.

Profile of Respondents

The study was conducted among 80 respondents. The analysis reveals that the majority (60%) belong to the 20–25 years age group, 57.5% are male, and 61.3% are students. Regarding monthly income, 61.3% of respondents have no income. In terms of educational qualification, 46.2% are undergraduates and 45% are postgraduates. Overall, the respondents are predominantly young, student-based, and educated individuals.

Percentage analysis of return experience and consumer perception

Table no 1: Summary of Percentage Analysis of Respondents

S. No.	Particulars	Major finding	Percentage
1	Ease of product return	Moderate	52.50%
2	Efficiency in handling returns	Efficiently	45.00%
3	Preferred return facility	Home pickup	62.50%
4	Environmental awareness	Aware	52.50%
5	Environmental benefit	Recycling of products	37.50%
6	Importance of environmental protection	Very important	40.00%
7	Convenient return method	Home pickup	56.20%
8	Time spent on returns	10–20 minutes	32.50%
9	Factor influencing return convenience	Fast processing	40.00%
10	Customer service rating	Good	42.50%
11	Response time for return queries	Within a few hours	33.80%
12	Preferred customer support	Phone support	52.50%
13	Clarity of return policy	Clear	40.00%
14	Important return-policy information	Refund procedure	31.20%
15	Source of return-policy information	Company website/app	37.50%
16	Positive perception of reverse logistics	Agree	31.20%
17	Return system and company trust	Agree	37.50%
18	Convenient returns and purchase intention	Agree	37.50%
19	Recommendation intention	Agree	40.00%
20	Preference for efficient return systems	Agree	45.00%

Source: Primary data collected from 80 respondents.

The study analyzes the respondents' opinions regarding product return processes, reverse logistics, environmental awareness, customer service, return policies, and purchasing behaviour. The data were collected from 80 respondents and analyzed using percentage analysis.

The findings reveal that 52.5% of respondents consider the product return process moderately easy, while 45% believe that returned products are handled efficiently. Regarding return facilities, 62.5% prefer home pickup, indicating a strong preference for convenient return services. Similarly, 56.2% identify home pickup as the most convenient method of returning products.

In terms of environmental awareness, 52.5% of respondents are aware of the environmental benefits of reverse logistics. Recycling of products is identified as the major environmental benefit by 37.5% of respondents. Furthermore, 40% consider environmental protection very important when choosing a company, highlighting the relevance of sustainable business practices.

Regarding return convenience, 32.5% of respondents are willing to spend 10–20 minutes returning a product. Fast processing is considered the most important factor by 40% of respondents. Customer service assistance is rated as good by 42.5%, while 33.8% expect responses to return-related queries within a few hours. Phone support is the preferred customer service channel for 52.5% of respondents.

With respect to return policies, 40% of respondents consider the policy clear, and 31.2% identify the refund procedure as the most important information. The company website or application is the primary source of return-policy information for 37.5% of respondents.

The findings also indicate a positive relationship between effective reverse logistics and consumer perceptions. About 31.2% of respondents agree that good reverse-logistics practices create a positive perception of a company, while 37.5% agree that an efficient return system increases trust and encourages purchasing. Additionally, 40% would recommend a company with an effective reverse-logistics system, and 45% prefer companies with efficient return systems.

Overall, the findings suggest that convenient return facilities, fast processing, effective customer support, clear return policies, and environmentally responsible practices are important factors influencing consumer satisfaction, trust, and purchasing preferences.

Statistical tests

Chi-square Test: Gender and Perception of Product-Return Ease

The chi-square test was conducted to examine whether a significant association exists between gender and consumers' perceptions of the ease of the product-return process among 80 respondents.

Table 2: Chi-square Test Results

Gender	Difficult	Easy	Moderate	Total
Female	0	13	21	34
Male	3	22	21	46
Total	3	35	42	80

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.595	2	0.166

The results show a Pearson chi-square value of 3.595 with 2 degrees of freedom and a p-value of 0.166. Since the p-value is greater than the 0.05 significance level, the null hypothesis is not rejected. This indicates that there is no statistically significant association between gender and perceived ease of the product-return process. Although male and female respondents showed some differences in their responses, these differences were not statistically significant. Therefore, gender was not significantly associated with perceptions of product-return ease in the present sample.

23. One-Way ANOVA: Age Group and Overall Consumer Perception Towards Reverse Logistics

A one-way ANOVA was conducted to determine whether overall consumer perception towards reverse logistics differs significantly across age groups among the 80 respondents.

Table 3 : One-Way ANOVA Results

Age group	N	Mean CPRL	Std. deviation
Below 20	13	3.154	0.338
20–25	48	3.850	1.043
26–35	6	3.200	1.470
36–45	10	3.820	1.160
Above 45	3	3.467	1.604

Source	Sum of squares	df	Mean square	F	Sig.
Between Groups	6.693	4	1.673	1.557	0.195
Within Groups	80.595	75	1.075		
Total	87.288	79			

The results indicate an F-value of 1.557, with 4 and 75 degrees of freedom and a p-value of 0.195. As the p-value exceeds 0.05, the null hypothesis is not rejected. Respondents aged 20–25 recorded the highest mean perception score (3.850), followed closely by those aged 36–45 (3.820). However, these differences in mean scores were not statistically significant. Hence, the study does not provide sufficient evidence to conclude that overall consumer perception towards reverse logistics differs significantly across age groups. The findings should be interpreted cautiously because some age groups have relatively small numbers of respondents.

6. Findings

Most respondents belong to the 20–25 years age group, and the largest groups in the sample are male respondents, students, respondents with no income and undergraduate and postgraduate respondents. Regarding the return process, the most common response is that the process is moderate in ease, and returned products are most commonly considered to be handled efficiently. Home pickup is the most frequently selected return facility and method, and

the most common time respondents are willing to spend on returning a product is 10–20 minutes. Fast processing is the most frequently selected factor making a return process convenient.

The largest group of respondents is aware of the environmental benefits of reverse logistics, recycling of products is the most frequently selected benefit, and environmental protection is considered very important by the largest group when choosing a company. Customer-service assistance is most commonly rated as good, the most common expected response time is within a few hours, and phone support is the most preferred support type. The return policy is most commonly considered clear, refund procedure is the most frequently selected important information, and the company website or app is the most common source of policy information.

For the five CPRL statements, "Agree" is the most common response for positive perception, trust, purchase intention, recommendation and preference towards companies with efficient return systems. The chi-square test found no statistically significant association between gender and perceived return-process ease ($p = 0.166$), and the one-way ANOVA found no statistically significant difference in mean CPRL across age groups ($p = 0.195$). Overall, the response pattern shows that respondents place substantial attention on convenience, processing speed, customer support, return-policy clarity and responsible handling of returned products.

7. Conclusion and Implications

This study examined consumer perception towards reverse logistics through 80 questionnaire responses. The descriptive results indicate that home pickup is the most commonly preferred return facility, fast processing is the most frequently selected convenience factor, phone support is the most preferred support channel, and the return policy is most often rated as clear. The five CPRL items also show that "Agree" is the most frequent response for positive perception, trust, purchase intention, recommendation and preference towards companies with efficient return systems. These findings suggest that reverse logistics is not only a product-recovery activity but also an important part of post-purchase customer experience, and that convenience, clear communication, timely processing and responsive support can help create a more manageable return journey.

The inferential results do not show a statistically significant association between gender and perceived return-process ease (chi-square = 3.595, $p = 0.166$), nor statistically significant differences in mean CPRL across age groups ($F = 1.557$, $p = 0.195$). The conclusions are limited to this sample of 80 respondents and the coding used in the analysis. Future research could use a larger and more geographically diverse sample and verify the raw-data coding before rerunning the statistical tests.

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