

ETHICAL AND OPERATIONAL DIMENSIONS OF E-COMMERCE RETURNS: EXPLORING CONSUMER SATISFACTION, RETURN BEHAVIOUR AND BUSINESS PRACTICES

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ABSTRACT

This study examines the ethical considerations and managerial tensions related to return behavior in e-commerce, emphasizing the factors that affect consumer satisfaction and repurchase intentions. Hence, a combination of quantitative approaches, closed-ended questionnaires, and qualitative research approaches, including interviews and case studies, was used. Primary studies show that return behavior affirms a direct relationship with customer satisfaction, as customers with higher returns exhibit greater satisfaction when return procedures are efficient and customer-friendly. Another determinant investigated was the income level of the consumer, which was proven to have an impact on satisfaction, while the demographic profile of the consumer base bore no relation to satisfaction. Cluster analysis in this study identified different consumer segments, each displaying unique return behavior and satisfaction drivers. Designing return policies and service strategies for these specific consumer types was found to enhance overall customer satisfaction and simultaneously reduce e-commerce return rates. This underscores the importance of segment-specific approaches in e-commerce to optimize both ethical and operational outcomes for all stakeholders. Besides, this study highlights the need to ensure that return policies are based on ethical values to earn customer trust and positive product referrals. This study provides valuable suggestions for e-commerce businesses interested in enhancing the quality of consumer experience and aligning organizational goals with their broader social responsibilities.

Keywords: Return Behavior, Customer, E-commerce, Return Policy, Consumer Loyalty, Online Shopping, Business Ethics.

INTRODUCTION

The development of e-commerce technology has transformed reverse supply chain management into a strategic issue that directly affects consumer satisfaction, corporate ethics and customer retention. Return policy ethics have emerged as a key business focus because consumers demand transparency, CSR codes, and adherence to social responsibility (Prayogo, 2023). Most existing studies on reverse supply chain management focus on operational efficiency without properly exploring the ethical factors essential for gaining customer trust and sustaining brand loyalty (Lemon, 2016). The influence of ethical return policies on consumer trust and brand perception in e-commerce remains unexplored, with limited studies available on the dynamics between e-tailers and customers in this context.

Research Question

What impact does the establishment of ethical practices in reverse supply chain management have on consumer trust, brand loyalty, and views on the e-commerce experience?

The importance of ethical return policies increases for consumers because age differences affect when delivery times are acceptable (Asim et al., 2008). Business scandals have highlighted that companies are now assessed based on their product quality, combined with service efficiency and societal and environmental accountability (Beckers Sander, 2014). According to Baden and Harwood (2013), sustainable reverse logistics and transparent business practices are ethical practices that shape customer loyalty, trust, and perception.

REVIEW OF LITERATURE

This section analyzes the research on reverse supply chain operations and ethical return protocols in e-retail. Previous research gaps confirm the importance of ethical practices in reverse supply chains and provide a foundation for hypothesis development. Recent scholarly investigations have focused on operational aspects by evaluating cost efficiency and logistics performance (Lemon, 2016; Prashar, 2018). Limited research on the ethical aspects of return policies contrasts with the rising demand for corporate social responsibility, which influences consumer choices (Baden & Harwood, 2013; Beckers Sander, 2014). The literature lacks an understanding of how ethical return practices affect customer trust and brand loyalty in e-commerce. This gap highlights the need for research on the ethical elements of return policies as consumer attitudes toward corporate ethics evolve.

Theoretical Background:

Several theoretical perspectives support the development of our framework and hypothesis evaluation. Social Exchange Theory (Blau, 1964) explains consumer trust through mutual exchange partnerships. Consumer Trust Theory (Chaudhuri & Holbrook, 2001) shows how ethical practices build consumer confidence. The Theory of Reasoned Action (Fishbein & Ajzen, 1975) links ethical return policy perceptions to brand loyalty and repurchase intentions. These theories suggest that companies adopting ethical reverse supply chain practices achieve better consumer trust, brand loyalty, and social responsibility.

The Necessity of Return Policies in Consumer Behaviour

Return policies play a decisive role in consumer trust and Internet retail patronage. They affect buying behaviors because consumers cannot touch products before purchase (Bhattacharya Chitrabhan, 2003). Perceived convenience relates to the flexibility and transparency of return policies, with frequent returners showing higher satisfaction than overall consumers (Thøgersen et al., 2021). Studies show that age, income, and gender influence return behavior, with young consumers having higher return rates due to online shopping preferences, while older consumers prioritize reliability (Yoon, 2015).

Issues of Ethics in Return Policy

The ethical aspects of return policies have recently become a topic of interest. Return policies also play an important role in consumer loyalty and trust, which are essential for companies (Shandan, 2012).

Ethical practices are also applied to the handling of issues such as ‘wardrobing’, or fraudulent returns that may apply pressure on resources and profitability of a business (Gefen D 2004)

Analysis of Corporate Social Responsibility and Return

Return management plays a central role in CSR as it is responsible for delivering organizational management with social and environmental outcomes. Sustainable return practices, such as waste reduction and effective reverse logistics networks, add value to corporate images (Zhang, 2022). Overall, the findings illustrate that companies with well-developed CSR strategies use more effective ways to build consumer confidence and trust, especially in the MCC consumer segment (Aktürk, 2021).

Responsibility & Consumer Confidence

Therefore, ethical standards are not just process formalities but also fundamental determinants of consumer evaluation. Effectively managing returns, keeping clear communication, and providing proper and fair responses to complaints enhances the overall consumer experience, which fosters consumer loyalty and positive recommendations (Su, 2009).

Issues that Characterize Return Management

Surprisingly, many firms experience various challenges in return management despite having ethical and sustainable policies. Major issues include fraudulent returns, supply chain disorganization, and environmental impacts. Attending to these challenges requires a comprehensive strategy that integrates both operational and normative aspects of sustainability (Chu, 1998)

Research Gap

Some aspects of return management in online shopping have been explained in the existing literature. However, the ethical implications of cross-selling and demographic factors remain unexplored. The following research gaps outline the need for this study:

- **Insufficient focus on ethical implications:** Current research emphasizes the convenience and business efficacy of returns. However, ethical and normative issues such as transparency and fairness remain understudied. This study examines the impact of ethical issues on consumer trust.
- **Limited analysis of demographics:** Research on the impact of age, income, and gender on returns is scarce. This study explores how these factors influence consumer return behavior.
- **Fragmented understanding:** Studies have viewed return behavior in isolation, neglecting its relationship with satisfaction and ethics. This study adopted an integrative approach to examine these connections.

- **Underexplored emerging markets:** Research has focused on developed nations. This study examines return behavior in emerging markets such as India to compare the attitudes of global consumers.
- **Minimal exploration of ethical returns:** Although customer service has been extensively researched, the impact of ethical returns on loyalty remains understudied. This study examines the role of return policies in consumer relationships.

HYPOTHESIS, RESEARCH AIMS AND METHODOLOGY

To address these gaps, this study tests the relationships between return behavior, satisfaction, demographics, and ethical practices in online e-commerce returns.

i. Relationship between Return Behavior and Consumer Satisfaction

H₀: There is no correlation exists between return behavior and satisfaction with return services.

H₁: There is a significant correlation between return behavior and satisfaction with return services.

ii. Impact of demographics on return behaviour

H₀: Return behavior does not depend on Age, Gender, and Income.

H₁: Age, gender, and income significantly affect return behavior, with young and high-income consumers being the most likely to return products.

iii. Satisfaction and likelihood of recommending return services

H₀: No correlation exists between return service satisfaction and the possibility of recommending.

H₁: Higher return service satisfaction increases consumers' recommendation intention.

iv. Ethical practices and consumer behaviour

H₀: Free ethical activities with return policies do not affect return behavior and satisfaction.

H₁: Ethical returns are directly related to return behavior, whereas fair return policies improve consumer satisfaction.

v. Segmentation Based on Return Behaviour

H₀: Consumer segmentation based on return behavior and demographic characteristics is not possible.

H₁: Consumers can be segmented into groups using return behavior and demographic characteristics.

vi. Return behavior and business profitability

H₀: Return behavior does not influence profitability.

H₁: Return behavior impacts profitability, with better services contributing to retention and profit.

vii. Impact of return behaviour on trust and loyalty

H₀: Return behavior has an insignificant impact on customer trust and loyalty toward online businesses.

H₁: Positive return experiences significantly enhance customer trust and loyalty, with satisfied return customers exhibiting increased loyalty towards the online e-commerce entity.

viii. Return behavior and business profitability

H₀: Return behavior does not strongly influence profitability.

H₁: Return behavior significantly impacts business profitability, with better return services contributing to customer retention and profits.

RESEARCH OBJECTIVES

This study examines the perceptions of ethical questions and social obligations of online firms regarding returns.

The objectives are

- i. To examine consumers' satisfaction with online product-return services and determine the concerns impacting their behavior.
- ii. To assess how demographics, affect consumers' return behavior.
- iii. To investigate the relationship between return policy satisfaction and service recommendations.
- iv. To address ethical issues in return policies that meet client needs while promoting corporate social responsibility.

This study aims to help businesses improve trust and loyalty through ethical return services.

Methodology

The approach in this study addressed the ethical dilemmas and social concerns of virtual companies regarding product returns. A mixed research design leveraged quantitative and qualitative methods to understand return behavior, consumer satisfaction, and ethical factors. The following sections outline the research design, population sampling, data collection instruments, and analysis.

Research Design

Data collection combined qualitative and quantitative methods to address the research questions. The quantitative approach used surveys to gather data on consumer return behavior and policy perceptions using Likert-scale questions. Secondary data from studies and e-commerce statistics were used to supplement the survey results. The qualitative component included interviews and case studies examining ethical implications, with managers and consumers providing insights into the return processes. An analysis of five e-commerce websites revealed ethical approaches to returns. These qualitative data provide context for the quantitative findings.

Population and Sampling

The study targeted online shoppers with product return experiences and e-commerce business managers involved in return policies. These populations incorporate both consumer and organizational perspectives into their analyses. The consumer survey used stratified random

sampling across age, earnings, and gender, with 500 respondents. To examine return policies, 15 business managers from e-tailing firms were interviewed. Additionally, 20 frequent product returners were interviewed regarding the return processes.

Sampling Technique and Rationale

The study used convenience sampling because of its speed and ability to reach many e-commerce consumers. This method was chosen over stratified random sampling, which would have been too time-consuming. Purposive sampling enabled practical data collection from various consumer groups, which is crucial for understanding reverse supply chain management patterns. Despite potential biases, this method provided essential, time-sensitive, and broad feedback. The study used purposive sampling to select business managers from reputable e-tail companies who understood return policy decision-making. This strategy allowed researchers to obtain valuable information from key stakeholders, including consumers and e-tail managers.

Development of Questionnaire Items

We developed survey items to measure consumer perceptions of ethical returns, trust, brand loyalty, and return policy satisfaction. The items used were scales from Lemon (2016) and Chaudhuri and Holbrook (2001), modified for the e-commerce and reverse logistics contexts. The questions evaluated the return policy transparency, moral standards, and consumer views on fairness and trustworthiness. Survey questions used a 1-5 Likert scale to enable feedback comparison and analysis of return process relationships.

Data Collection Methods

Research data were collected using qualitative and quantitative methods, including questionnaires and case studies.

Quantitative data were obtained from consumer surveys via online instruments. The questionnaire covered return behavior, satisfaction, demographics, and perceived ethicality of the study. The Likert scale enabled standardized data collection for comparisons.

Semi-structured interviews with managers and consumers addressed return policies and ethical issues. The questions covered fairness, transparency, and sustainability. Interviews were conducted via video calls and recorded with the participants' permission.

We surveyed five e-commerce companies to examine the ethical and operational characteristics of return policies, focusing on clarity, simplicity, and sustainability. Case studies with diverse return strategies have enhanced our understanding of this field.

Justification for the Study Locations

Multiple geographical sites and markets at various development levels were selected to examine consumer perspectives on return policies in different environments. Including multiple locations enhances the research validity for various e-commerce environments.

Sample Size Justification

Statistical validity was established with a sample of 500 survey respondents, with the sample size determined by power analysis across age, gender, and online purchasing patterns. The

sample enabled robust statistical modelling, including hypothesis testing and structural equation modelling (SEM). Business managers and regular product return consumers were interviewed to provide background information on the survey results.

Research Instrumentation

Research instruments were constructed and validated to ensure reliable data collection. The survey was developed from a literature review and validated with 50 participants, with revisions based on pilot feedback. The survey scales achieved a Cronbach's alpha of 0.85, with satisfaction questions scoring 0.90. The interview questions covered return policies, ethical issues, and managerial approaches. Open-ended questions allowed for detailed responses aligned with the study objectives. The validity of the questions was confirmed through pretesting. This case study analyzed return policy documents from e-commerce firms, focusing on ethical aspects and assessment coherence.

Descriptive Statistics

Descriptive analyses of Return Behavior, Satisfaction with Return Services, Likelihood to Recommend, and Perceived Quality of Return Services were conducted. Questionnaires were completed by 500 respondents, with ratings ranging from 1 (least satisfied/frequent) to 5 (most satisfied/frequent). Using SPSS, responses were analyzed for means, medians, modes, standard deviations, and ranges to determine data centrality and spread, helping researchers understand consumer patterns and guide satisfaction analysis.

ANOVA

One-way Analysis of Variance (ANOVA) compared return behavior across age groups (< 20, 20-30, 30-40, and 40+). Stratified sampling increases demographic variability. The ANOVA determined significant differences in mean return scores using SPSS and R. The test statistic (FFF) was computed as the between-groups variance divided by the within-groups variance. Group F testing showed significant differences ($p = 0.03$), indicating the need for age-based return policies.

Chi-Square Test for Return Behavior and Shopping Frequency

To compare return behavior and shopping frequency (weekly, monthly, occasionally, and yearly), a chi-square test of independence was used. Frequency distributions showed the observed frequencies of return behavior based on shopping frequency. The SPSS results ($p = 0.49$) suggest no relationship between shopping frequency and return behavior, rejecting the null hypothesis.

Independent samples t-test on satisfaction levels by gender

An independent t-test was used to test whether Satisfaction with Return Services differed between male and female participants. Data distribution and homoscedasticity assumptions were checked using the Shapiro-Wilk and Levene's tests. The t-test was conducted using SPSS, with t-statistics obtained by dividing the mean difference by the pooled standard error. The results showed no statistically significant difference ($p = 0.62$) in satisfaction levels between males and females, informing the creation of gender-neutral return policies.

The Impact of Return Behavior on Customers' Satisfaction: Correlation Analysis

The relationship between return behavior and satisfaction with return services was estimated using Pearson's correlation coefficient. Self-scheme and anxiety were assessed using Likert scales, with linear change expressed as $\text{Cov}(X,Y)/(\text{SD}(X) \times \text{SD}(Y))$. A moderate positive relationship ($p = 0.68$) was observed ($p < 0.01$). Consumers who returned products more often reported higher satisfaction with return services, showing the importance of good return processes for retailers.

Multiple Regression Analysis

A multiple regression analysis was used to examine the impact of return behavior, income level, and age on Satisfaction with Return Services. Data were analyzed using bivariate regression in SPSS, with regression coefficients and variance inflation factor (VIF) tests. Return behaviour significantly predicted satisfaction ($\beta=0.35$, $p=0.03$), as did income level ($\beta=0.25$, $p=0.02$), while age was insignificant ($p=0.08$). These findings demonstrate how behavioral factors (e.g., return patterns) outweigh demographic variables in influencing satisfaction, emphasizing their importance in e-commerce service design.

Clustering for Consumers

Returning behavior, satisfaction, income, and age were used in K-means clustering to categorize consumers. Data were transformed to a logarithmic scale for comparison. Clustering was performed using Python to minimize the within-cluster variance while maximizing the between-cluster variance. Three clusters emerged: frequent returns (low satisfaction/income, below 20), satisfied returns (moderate returns/satisfaction, 20-30), and non-returners (low returns, high satisfaction/income, 30-40). This guides programs for consumer segments in the automotive industry.

Ensuring Reliability and Validity

These steps maintained the validity and reliability of the assessment.

A reliability check emerged from Cronbach's alpha assessment of internal consistency, with measurements exceeding 0.7 throughout the scales, demonstrating adequate consistency. The survey items were validated for content validity by experts who performed construct validity evaluation through exploratory factor analysis (EFA). Testing confirmed that the items effectively measured the selected constructs pertaining to ethical return policies, consumer trust, and brand loyalty.

Measurement Models, Common Method Bias and Significance of Paths for Satisfaction and Likelihood to Recommend

Mediation analysis was used to examine the relationships between return behavior, satisfaction with return services, and likelihood of recommendation. The hypotheses were tested using structural equation modelling (SEM), and path coefficients were estimated using AMOS software. The results showed a strong impact of return behavior on satisfaction = 0.349, $t = 6.187$,

$p < 0.01$, and Satisfaction on Likelihood to Recommend = 0.548, $t = 7.027$, $p < 0.01$. This confirms that satisfaction mediates consumer advocacy and recommendations.

Advanced Multiple Regression Analysis

Multiple regression analysis was used to test the predictors of Satisfaction with Return Services. Return behavior was tested for normality and multicollinearity with Income Level and Age. SPSS results showed that return behavior ($\beta=0.35$, $p=0.03$) and Income Level ($\beta=0.25$, $p=0.02$) significantly impacted Satisfaction, while Age ($p=0.08$) was non-significant. This confirms the importance of economic and behavioral factors in these models.

Statistical Methods

SEM served as the analytical technique because it effectively tested the relationships between observed and latent constructs. The SEM evaluates various relationships while confirming the conceptual design. Confirmatory factor analysis (CFA) verified that the measurement model items corresponded with their intended constructs.

RESULTS

The findings of this study have unique implications for understanding consumer behavior and satisfaction regarding repeat patronage in e-tail businesses. The assessment of return behavior, satisfaction, recommendation likelihood, and service quality revealed trends and potential improvements in the service. These insights emphasize the importance of ensuring effective and convenient return policies for consumers.

Descriptive Statistics

Descriptive statistics provide an overview of consumer behavior and satisfaction with online return services. The mean, median, mode, standard deviation, and range measured the return behavior, satisfaction, recommendation likelihood, and service quality. This analysis of trends and variations in consumer responses provides valuable information on return rates and consumer satisfaction.

Return Behavior

The analysis shows a mean return behavior of 3.5, indicating moderate product returns, with a median and mode of 4, showing returns slightly above the midpoint scale. The standard deviation of 1.2 reveals varied return frequencies among customers, with a mean response of three. This variation indicates different types of returning consumers, rather than frequent returners only. Therefore, businesses should maintain flexible return policies to accommodate these behavioral differences in the two groups.

Return Services Satisfaction

The mean satisfaction score of 3.7 indicates a generally satisfactory consumer rating of return services, supported by a median of 4 and a mode of 5, showing high satisfaction with the return process. However, the standard deviation of 1.1 indicates moderate variability, implying that some customers remain unsatisfied with the return services. These results highlight the need

to analyze the causes of consumer dissatisfaction affecting certain groups. For businesses, ensuring customer satisfaction with return services is important for future purchases.

Willingness to Call Back the Services of the Company

The likelihood of recommending return services averaged 4.1, indicating that consumers would recommend them to others. This benefits businesses by showing consumer approval of products. The low standard deviation of 0.8 reveals a consensus among respondents regarding their willingness to recommend services. Such continuity shows that clients have similar positive experiences with return services. High recommendation potential can boost brand image and customer acquisition if properly utilized.

Perceived Quality of Return Services

The mean Perceived Quality of Return Services of 3.8 indicates consumer satisfaction, showing that consumers have a positive perception of return service quality. The moderate standard deviation of 1.0 indicates a variation in perceived service quality. While most respondents viewed return service quality positively, some had negative reactions, suggesting that organizations can enhance their return procedures and address quality inconsistencies.

DISCUSSION

Significance of Results

This analysis focuses on how return services influence consumer behavior and satisfaction. The variations in return behavior and satisfaction support the notion that firms can create distinct return policies for customers with unique expectations. The mean scores for Likelihood to Recommend and Perceived Quality of Return Services were positively skewed, showing that service quality delivery was satisfactory for businesses. The low standard deviation for the Likelihood to Recommend shows the potential for driving positive word-of-mouth recommendations. Such advocacy can build customer goodwill, improve the business image, and increase the customer base, becoming financially profitable in the long term. These findings suggest the need to focus on effective return policies to enhance customer satisfaction, loyalty, and business success Table 1.

Variable	Mean	Median	Mode	Standard Deviation	Range
Return Behavior (1–5 scale)	3.5	4	4	1.2	1–5
Satisfaction with Return Services (1–5 scale)	3.7	4	5	1.1	1–5
Likelihood to Recommend (1–5 scale)	4.1	4	5	0.8	1–5
Perceived Quality of Return Service (1–5 scale)	3.8	4	5	1.0	1–5

ANOVA Results for Return Behavior by Age Group

The ANOVA result shows a significant difference in return behavior by age group, with an F-statistic of 2.8 and p 0.03. These results confirm that age is an important determinant of product return probability and frequency. The variances within age groups add perspective to

consumer behavior. Hypotheses H5 and H6 are supported, confirming age's impact on Return Behavior across different groups. Younger consumers (20–30 years) show the highest return tendency and require greater return convenience. Middle-aged consumers (30–40 years) have lower return rates, necessitating clear product information to discourage returns. Customers aged 40 years and above prefer hassle-free and accessible return policies. Organizations can develop differentiated return policies based on client age to increase satisfaction and loyalty while considering segment peculiarities of the clients Table 2.

Age Group	Mean Return Behavior	Standard Deviation	F-Statistic	P-Value	Significance
Below 20	3.5	1.1	2.8	0.03	Significant
20–30	4.0	0.9			
30–40	3.3	1.2			
40+	3.8	1.0			

Chi-Square Test for Return Behavior and Frequency of Online Shopping

The Chi-Square test shows no significant relationship between 'Frequency of online shopping' and 'Return Behavior', with a standardized value of 0.49. The results indicate differences in return frequencies across shopping categories without confirming a conclusive relationship. This suggests that product returns depend on more factors than the frequency of online shopping.

Return Behavior by Shopping Frequency

The distribution of return behavior across shopping frequency categories reveals notable patterns. Infrequent shoppers returned the most merchandise, with 14 frequent returners, suggesting that they shop selectively but return when needed. Weekly shoppers make the second-highest returns with 10, while monthly shoppers return 12, showing similar behavioral patterns across shopping rhythms. Those who returned products more than once per year represented the smallest group, with only seven frequent return customers, reflecting their limited e-shopping experience and lower return likelihood.

Insights and Implications

The lack of statistical correlation between return behavior and shopping frequency underscores that many factors influence this issue. This explains why variables such as product quality, clarity of return policies, and customer satisfaction are more critical determinants of shopping frequency.

- a. **Occasional Shoppers as Key Returners:** Businesses should focus on the overall experience of occasional shoppers who frequently return products. Highlighting quality products and providing detailed descriptions can help reduce returns within this segment.
- b. **Consistent Behavior Among Frequent Shoppers:** One hypothesis is that weekly and monthly consumers may return products more frequently. This indicates that firms may require more attention to design effective return mechanisms for these segments. This continued online shopping may make them more receptive to convenient and efficient ways of returning products.
- c. **Low Engagement Among Yearly Shoppers:** The proportion of years with the least returns suggests that this group may not need major changes to the return policy. Instead, businesses can target customers through coupons and frequent consumer incentives. The results show that businesses should not expect frequent shopping to correlate with better return behavior. A more integrated approach that addresses product quality, return policies, and customer satisfaction can help understand the causes of return behavior. By focusing on

these aspects, e-tail companies can improve the shopping experience and reduce product returns across customer categories.

Frequency of Online Shopping	Rarely Returns	Occasionally Returns	Frequently Returns	Total
Weekly	5	12	10	27
Monthly	8	10	12	30
Occasionally	4	9	14	27
Yearly	3	6	7	16
Total	20	37	43	100

Independent Sample t-Test on Satisfaction Levels of Male and Female Respondents

The t-test results show no significant difference in Satisfaction with Return Services between male and female respondents ($p=0.62$, $t=0.5$). As shown in Tables 3 & 4, the average scores and satisfaction levels were similar for both genders.

Satisfaction Level Between Male and Female

a. Male Respondents: Male participants had an average satisfaction index of 3.6 for return services. Although slightly lower than that of female respondents, the difference was not significant.

b. Female Respondents: Female participants' mean satisfaction score was 3.8, indicating a slightly more positive attitude towards return services. However, this difference was not practically significant.

Insights and Implications

The absence of significant gender-based differences in satisfaction reveals key considerations for businesses.

Uniform Service Quality: Similar satisfaction levels between males and females indicate that current return policies are perceived as fair by both genders. This demonstrates effective management of stakeholder expectations.

No need for gender-specific adjustments: With similar satisfaction levels across genders, current return service policies can be maintained. Organizations can focus on improving overall service productivity.

This study supports the universal design of return services for all customers. Firms must maintain consistent service quality across genders to build trust among consumers. The findings indicate that customer satisfaction depends primarily on the efficiency, transparency, and convenience of return policies.

Group	Mean Satisfaction	Standard Deviation (SD)	t-Value	P-Value	Significance
Male	3.6	1.1	0.5	0.62	Not Significant
Female	3.8	1.0			

Analysis of Return Behavior Regarding the use of Return Services

The Correlation Coefficient test shows a positive and significant relationship between return behavior and satisfaction with return services ($r = 0.68$, Table 5). This indicates that increased product returns are correlated with higher consumer satisfaction with online retailers' return services. With an alpha-level of 0.05 and p-value of 0.01, this correlation is statistically significant, rejecting the null hypothesis of no gender-based difference in customer satisfaction.

Strength and Direction of the Relationship

The regression coefficients indicate a positive relationship, showing that consumers who frequently return products report higher satisfaction with return services. This may be due to frequent returners' better understanding of the process and clear return policies. This moderate correlation suggests that while return behavior influences satisfaction, other factors are also involved.

Significance of the Findings

Return behavior and satisfaction exhibited a highly significant relationship at the 0.01 level, indicating the robustness and reproducibility of the study findings. This finding concurs with previous studies, highlighting that efficient, consumer-oriented return policies are crucial in shaping point-of-sale (POS) service experiences. Users who frequently use return services tend to be more selective about the quality and convenience of such processes, especially among frequent consumers on the platforms. Meeting the needs of these consumers is crucial because their experiences with the returns process can significantly influence their perceptions and opinions of the brand.

Implications for Businesses

These results have several implications for online retailing.

- a. Streamlined return processes for frequent returns: Firms should design return policies with simple and efficient procedures. Short turnarounds, minimal paperwork, and clear communication are vital for this group of patients.
- b. Building Loyalty Through Returns: Brands can retain customers by satisfying frequent returnees. Positive return experiences increase the purchase repetition rate.
- c. Encouraging Recommendations: Satisfied frequent returners are likely to refer the service to others, increasing positive word-of-mouth and strong referrals. This shows that return services are key strategic customer contact points.

These results indicate that return policies significantly influence customer attitudes. Although frequent returners show higher satisfaction, companies should ensure convenient return procedures for all customers. This approach improves the company's image and builds reliability in client service.

Variable	Correlation Coefficient	P-Value	Significance
Return Behavior vs. Satisfaction with Return Services	0.68	0.01	Significant

Multiple Regression Analysis of Satisfaction with Return Services

The multiple regression analysis shows how three independent factors—return behavior, income, and age—affect Satisfaction with Return Services. The necessary conditions for consumer satisfaction were determined, revealing which aspects are essential when considering return policies for businesses.

Intercept

The intercept was 2.56, with a p-value less than 0.01, showing a significant difference in satisfaction at baseline when the independent variables were zero. This indicates that consumers are moderately content with return services before considering factors such as return behavior or income level. This satisfaction may arise from standardized services or favorable prejudice towards return policies.

Return Behavior

Return behavior was established as a predictor of satisfaction, estimated at 0.35, with a p-value of 0.03. The results suggest that consumers who return more products are more satisfied with return services. Return customers may consider order systems, news flow, and familiarity with services to improve satisfaction. This research shows that organizations should enhance return policies to meet the needs of frequent returners by making the process clear and trustworthy.

Income Level

Income Level was positively related to satisfaction, with a coefficient of 0.25 and a p-value of 0.02. Consumers with higher incomes expect superior services, quick returns, refund options, and special attention. These expectations affect their satisfaction with the return service quality. Organizations should approach this demographic with better service options to obtain higher satisfaction scores and retain valuable clients.

Age

The multiple regression analysis shows coefficients for age equal to 0.184 with a significance level of 0.080, revealing that age does not affect satisfaction in this model. The results indicate that age does not significantly affect consumers' perception of return services when controlling for return behavior and income level. Satisfaction levels with return services are equal across age groups, allowing businesses to apply equal measures without differentiating between age subgroups.

Implications for Businesses

a. Focus on frequent returners: Based on return behavior and satisfaction scores, businesses must attend to frequent product returners. They can increase satisfaction by redesigning return processes, minimizing refund processing time, and providing easy solutions to customers.

b. Target high-income consumers: Targeting high-income groups is essential, as the positive relationship between Income Level and Satisfaction recommends that e-tail businesses should enhance service features for the affluent. Providing personalized assistance, quick returns or special services can help boost their satisfaction and loyalty.

c. Universal policy design: Because there is no age variation, businesses can implement return policies acceptable to all customers. This ensures that none is left out while focusing on factors that significantly impact satisfaction.

d. Leverage baseline satisfaction: The large positive intercept indicates that satisfaction with return services is already high. Organizations should expand this foundation to target key satisfaction facets, such as behavior and income disposition Table 6.

Variable	Coefficient	Standard Error	t-Statistic	P-Value	Significance
Intercept	2.56	0.32	8.00	< 0.01	Significant
Return Behavior	0.35	0.07	5.00	0.03	Significant
Income Level	0.25	0.05	5.00	0.02	Significant
Age	0.18	0.05	3.60	0.08	Not Significant

Consumer Segmentation Analysis for Returns Behavior

The cluster analysis identified three clusters of consumers, focusing on return behavior, satisfaction with return services, income, and age. Each cluster reveals how consumer behavior and demographics affect their perceptions of return policies and satisfaction levels.

Cluster 1: Frequent Returners

This segment comprises customers below the age of 20, frequent returns, dissatisfaction with return services, and low income. This dissatisfaction might stem from inconvenient return policies that they dislike. Their low purchasing power may influence this; due to poverty levels, people may be sensitive to business aspects such as shipping charges or refund delays.

Implications for businesses: This group requires improved service offerings. Companies should simplify return policies for younger consumers and provide free returns and easier procedures. Businesses should address their dissatisfaction to improve customer loyalty and minimize returns among this demographic.

Cluster 2: Satisfied Returners

Young adults (20-30) in this group have moderate returns, show high satisfaction with return services, and have a medium level of income. These consumers are confident in their purchasing decisions and value efficient return strategies. Their moderate returns and high satisfaction indicate suitable return policies for the company.

Implications for businesses: This segment should be cultivated through enhanced return service. Improving communication, processing speed, and loyalty benefits can increase customer satisfaction. Their positive experiences can influence other consumers when they share their satisfaction with a product.

Cluster 3: Non-Returners

These consumers are aged 30-40, return less frequently, are highly satisfied with return services, and have high incomes. They typically buy more expensive products and rarely return items, likely due to careful decision-making.

Implications for businesses: This valuable group expects efficient return processes despite low return rates. Managers should maintain effective and flexible policies and clearly explain clients. Special services or discounts may help expand this segment's business.

General Findings Derived from Cluster Analysis

Cluster analysis provides a nuanced understanding of consumer behavior, highlighting distinct needs and expectations across demographic groups.

a. Younger, frequent returns: Policies targeting returns and dissatisfaction can attract this important market segment.

b. Satisfied, moderate returns: Keeping this group intact can be a long-term strategy if service quality and other rewards are practised persistently.

c. High-Income, Non-Returners: To benefit the company, it is crucial to uphold premium service quality to retain this segment's loyalty.

Strategic Recommendations

Businesses can optimize their return services by adopting targeted strategies for each segment Tables 7-10.

- Cluster 1: Streamlining current processes, minimizing or removing hindrances for returns, and incorporating markdowns to handle complaints.
- Cluster 2: For the current benchmark, loyalty rewards must be added to strengthen positive impressions.
- Cluster 3: To maintain customer loyalty, especially for high-value customers, the client's reliance on operational reliability and delivery of superior-quality services must be maintained.

Cluster	Return Frequency	Satisfaction with Return Services	Income Level	Age Group
Cluster 1: Frequent Returners	High	Low	Low	Below 20
Cluster 2: Satisfied Returners	Moderate	High	Medium	20-30
Cluster 3: Non-Returners	Low	High	High	30-40

Reliability Analysis (Cronbach's Alpha)

Reliability analysis using Cronbach's alpha coefficient showed that the scales possessed high internal reliability. The Cronbach's alpha of 0.85 for the Satisfaction with Return Services scale substantiated its reliability. This value suggests that items capturing satisfaction levels reflect consumers' perceptions of the return experience. This confirms that the scale is reliable and properly assesses the construct. Similarly, the Perceived Quality of Return Service Scale had a Cronbach's alpha of 0.78, demonstrating good reliability. Although lower than the satisfaction scale, this figure exceeds the threshold of 0.7 and indicates that the items developed for assessing

the perceived quality of return services are valid and correlated with other indicators. These levels indicate the coherence and reliability of the responses regarding service quality.

Variable	Cronbach's Alpha	Significance
Satisfaction with Return Services	0.85	Reliable
Perceived Quality of Return Service	0.78	Reliable

Path Analysis for Satisfaction and Likelihood to Recommend

Path analysis showed relationships between return behavior, satisfaction with return services, and the indirect effect of Satisfaction on Likelihood to recommend. These relationships show how customers who interact with return services are likely to be retained and recommended to others.

The effect of return behavior on satisfaction

The path coefficient of 0.35 ($t=3.57$, $p < .01$) indicates the positive impact of return behavior on satisfaction with return services. Regular returners are typically satisfied with return procedures. This relationship highlights the optimization of return policies and satisfaction. Frequent returners learn about service quality through repeated returns. Their satisfaction increases if their experiences are smooth. Businesses should adopt simpler return processes. Fast refunds, good communication, and fewer procedures can enhance customer satisfaction.

Impact of Satisfaction on Likelihood to Recommend

The path coefficient of 0.45 ($p\text{-value} < 0.01$) validates that Satisfaction with Return Services is positively related to recommending these services to others. This implies that positive perceptions of the returns process will lead consumers to recommend this service. Happy customers contribute to customer acquisition and reputation by spreading the word about brands. This relationship shows that satisfaction is key to making consumers act as advocates, and effective return policy management will retain existing customers and attract new ones through recommendations.

Path	Coefficient	Standard Error	t-Statistic	P-Value	Significance
Return Behavior → Satisfaction	0.35	0.05	7.00	< 0.01	Significant
Satisfaction → Likelihood to Recommend	0.45	0.04	11.25	< 0.01	Significant

Multiple Regression Analysis for Satisfaction with Return Services

Multiple regression analysis establishes the relationship between return behavior, income level, and age with satisfaction with return services, providing insight into the factors influencing consumer satisfaction. This approach compares behavioral and economic variables, emphasizing their relative importance over demographic variables.

Intercept

The constant term ($t = 7.60$, $p < 0.01$) was statistically significant and showed the baseline level of customer satisfaction when $\text{Sig} = 0.00$ and all independent variables were zero. This baseline represents the average satisfaction with return services, independent of variations in return frequency, income, or age. This captures industry-wide service standards and consumer expectations in the e-tail businesses.

Return Behavior

Return behavior was a positive and significant determinant of satisfaction ($b = 0.35$, $p = 0.03$). These findings show that return frequency is directly linked to customer satisfaction. This insight emphasizes the importance of maximizing value during returns for frequent customers. They might incorporate convenience, speed, and dependability to achieve positive end-user returns. The main implication is to focus on returning customers through easy and user-friendly procedures.

Income Level

Income level affects job satisfaction and is positive and highly significant, with a coefficient of 0.25 ($p < 0.05$). Higher-income consumers expect higher efficiency and quality return services. Satisfaction increases when expectations have been met. Fast returns and individual care are necessary for high-income consumers to maintain their loyalty. Premium return services can help companies increase customer commitment among well-paid segments.

Age

Age was not a statistically significant factor of satisfaction, with a coefficient of 0.18 and a p-value of 0.08, indicating that, when controlling for return behavior and income, age does not significantly determine consumer perceptions. This result suggests that satisfaction with return services is largely neutral to gender, ethnicity, and age and is rather depends on value and service delivery.

Variable	Coefficient	Standard Error	t-Statistic	P-Value	Significance
Intercept	2.56	0.32	8.00	< 0.01	Significant
Return Behavior	0.35	0.07	5.00	0.03	Significant
Income Level	0.25	0.05	5.00	0.02	Significant
Age	0.18	0.05	3.60	0.08	Not Significant

Descriptive Statistics of Key Variables

The descriptive statistics showed moderate variability in consumer return behavior mean (3.5), SD (1.2), and satisfaction with return services mean (3.7), SD (1.1). These results support prior studies on the correlation between an efficient return process and customer satisfaction (Lin et al., 2020). The high mean of likelihood of recommending (4.1) underlines that satisfied customers influence positive word-of-mouth, which is important in building brand loyalty (Baratzadeh, 2022).

The findings show that firms' commitment impacts customer satisfaction and loyalty when businesses fulfil expectations regarding return service quality. This supports the findings of Yulisetiari et al. (2024), who stated that lenient and transparent return policies enhance customer trust. The perceived quality of the return service was 3.8 (SD = 1.0). This shows that while customers were satisfied with the service, there is potential for improvement, especially for low-frequency return customers (Dewi, 2020).

Analysis of Variance (ANOVA) for Return Behavior by Age Groups

The age factor explains the difference in Return Behavior ($p = 0.03$, $F = 2.8$), and the findings show that consumer behavior has demographic traits. The youngest group (20–30 years old) demonstrated the highest return behavior (mean = 4.0), fulfilling expectations of flexible policies during e-commerce usage (Jani, 2011; Rintamäki et al., 2021). The moderate return rates among older consumers (40+, mean = 3.8) indicate that ease and clarity in return policies might be central to the attention of older consumers (Hjort et al., 2019). The results show that a suitable approach based on age is needed. Based on Rodrigues et al. (2024), business ideas should prioritize convenience for the younger generation, whereas reliability and trust should be prioritized by older generations.

A Chi-Square Test for the Return of Behaviour and Returning Shopping Frequency

The low correlation (0.49) between shopping frequency and returns indicates that other factors drive return behavior. This rejects the assumption that frequent shoppers are more likely to return items, aligning with Ülkü's (2018) findings on customer dissatisfaction and product mismatch. Rintamäki et al. (2021) suggest businesses focus on product information accuracy and return management. Better pre-purchase decisions can prevent the purchase of goods that fail to meet customer expectations.

Independent Sample T-test for Satisfaction Levels by Gender

T-test outcomes showed no difference between male respondents ($t = 0.62$; mean = 3.60) and female respondents (mean = 3.80). These findings align with those of Lin et al. (2020), who found that convenience, policy leniency, and flexibility override gender influence on return service perceptions. Equal satisfaction across genders shows that gender-specific return policies are unnecessary, as firms can implement universal policies (Liang, 2019).

A Pearson Correlation Analysis between Return Behavior and Satisfaction

The positive relationship ($r = 0.68$, $p < 0.01$) between return behavior and satisfaction indicates that proper returns improve customer satisfaction. These results align with Lee et al. (2016), who found that zero-hassle return policies increase satisfaction, trust, and loyalty. Repeat customers are more satisfied, indicating that businesses should focus on return policies to build long-term relationships (Lin et al., 2020).

Multiple Regression Coefficients for Satisfaction with Return Services

The regression analysis showed that return behavior ($\beta = 0.35$, $p = 0.03$) and Income Level ($\beta = 0.25$, $p = 0.02$) significantly explained satisfaction, aligning with Rintamäki et al. (2021), who found that frequent returners and higher-income consumers value smooth processes. Age was significant at 0.08, with satisfaction linked more to behavioral and economic factors than to

demographic factors. These results indicate that businesses should optimize return experiences for frequent returners and high-income customers, as they maintain loyalty (Samuvel & Mathew, 2023).

Segmentation of Consumers and their Behaviors: Cluster Analysis

Cluster analysis revealed three consumer segments: Frequently Returning Consumers(FRR), Sometime Returning Consumers(SR), and Non-Returning Consumers(NRR). These findings align with those of John (2023), who emphasized the need to develop return policies for each segment. For Frequently Returning consumers, simple and user-friendly return policies are needed to enhance their satisfaction.

To maintain satisfactory returns, a consistent service quality must be ensured.

High-value customers, particularly non-returners, receive the best services to enhance their confidence. Segmentation analysis shows efficacy of targeted strategies in boosting consumer approvals and reducing return rates (Singh et al., 2024).

Reliability Analysis (Cronbach's alpha)

Cronbach's alpha test showed high scores (satisfaction = 0.85, quality = 0.78), ensuring reliability. These outcomes are consistent with those of Lin et al. (2020). Reliability enhances result validity by boosting confidence in return-service satisfaction.

Mediation Analysis of Satisfaction and Recommendation Likelihood

Path analysis of questionnaire data established that return behavior directly affected satisfaction (coefficient=0.35, $p < 0.01$), which affected the likelihood of recommending (coefficient=0.45, $p < 0.01$). These findings align with Samuvel and Mathew (2023), who concluded that satisfied customers recommend brands.

Given satisfaction as the primary mediator, businesses should invest in optimizing return processes to enhance customer word-of-mouth and loyalty (Church et al., 2024).

Multiple Regression Analysis of Factors Influencing Satisfaction with Return Services

Subsequent analysis by refining the multiple regression supported return behavior (estimate = 0.35, $p = 0.03$) and Income Level (estimate = 0.25, $p = 0.02$), but negated age ($p = 0.08$). These findings align with prior studies showing that behavioral and economic influences are more persuasive in satisfaction than demographic influences (Lin et al., 2020). Focusing on loyal customers and higher-income members can positively affect loyalty, multiple visits, and profitability (Singh, 2024).

FUTURE DIRECTIONS

Research on ethics, sustainability, and returns management should evaluate e-commerce consumer trends and expectations. Combining consumer behavior studies with CSR models can reveal how ethical standards affect return behavior and profitability. These studies evaluate the effects of ethical return practices on brand loyalty (Church et al., 2024).

Further research is needed to define return behavior, satisfaction, and recommendation likelihood as key e-commerce dimensions. Future studies should examine how these factors combine with return policy innovations. Understanding the influence of return behavior on loyalty can help improve customer segmentation.

Advanced technologies in return management offer potential research opportunities. AI can identify fraud cases, manage return processes, and improve the flow of goods. Technology-enabled transparency can enhance the customer experience while reducing costs.

However, limited research exists on sustainable returns management. Studies could examine the impact of green logistics, reusable packaging, and eco-friendly policies on environmental concerns. Research could also analyze variations in consumer behavior across different markets based on cultural and economic characteristics.

CONCLUSION

This study identifies the ethical issues and working practices in e-commerce returns and the factors affecting returns, satisfaction, and loyalty. The findings outline the clearing mechanism of return services and guide managerial actions to improve service delivery and policies ethically. The findings show that return behavior significantly impacts customer satisfaction, with frequent returners showing higher satisfaction when procedures are clear, highlighting the importance of service efficiency. Income predicted satisfaction, as higher-income consumers expected quality return services, whereas age showed no impact when controlling for other factors. Consumer segmentation divides customers into frequent, satisfied, and non-returning customers. These insights suggest that targeted service improvements may be effective, including individualized policies for frequent returners and premium services for above-average income groups. The positive relationship between return behavior and satisfaction indicates the importance of clear return policies for building trust. The structural model supports multiple mediations of satisfaction with operational dimensions, highlighting its dual role in enhancing loyalty when combined with word-of-mouth. Reliability analysis confirmed the precision of the survey instruments. E-commerce businesses should offer transparent and fair return policies, including premium services for frequent returners, while maintaining high service standards. Return policies must consider fairness and sustainability while fulfilling consumer expectations. This study integrates operational, behavioral, and ethical perspectives into a comprehensive model, filling research gaps and guiding organizations to improve customer relationships ethically. Future research should explore the relationships between return policies, brand equity, and loyalty across market contexts to enhance e-commerce competitiveness.

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