

A Critical Study of Reverse Logistics & Impact on Customer Satisfaction in E-Commerce: With Special Reference to Mumbai

Prof. Sunil S. Saxena, PhD Scholar, JJJ University, Rajasthan, India.

Dr. Satish R. Billewar, Assistant Professor, Vivekanand Institute of Management, Mumbai, India

Dr. D Henry Babu, Director, St. Francis Institute of Management and Research, Mumbai, India

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Abstract:

E-Commerce is becoming one of the most convenient medium for all daily needs. Even the offline customers often compare the prices of the products online first to confirm the real value. But before taking the final call, every customer always finds the availability of Cash on Delivery (COD) facility to the product as he is not yet satisfied with reverse logistics services of the product. Reverse logistics are not only crucial to the customer but also to the companies which want to survive in business and also to satisfy the customer with the quality product and good services. Most of the times, it has also been observed that the bad reviews of the customers are the outcome of the unfulfilled expectations of support and reverse logistics services. The paper discusses the correlation between customer's experiences, satisfaction and loyalty which would help to give details of after sell services in terms of reverse logistics to gain customer faith. The paper also focuses the problems of E-Commerce companies regarding reverse logistics and the barriers to implementation the solutions.

Keywords: E-Commerce, Customer Perception, Customer Experience, Customer Satisfaction, Brand Loyalty.

I. INTRODUCTION

Electronic Commerce known also as Ecommerce is model of business where all the transactions are held via the internet. There are many types of Ecommerce store such as Business to Business (B2B), Business to Customer (B2C), Customer to Customer C2C. In the study we have considered the Business to Customer (B2C) variant. Many business sell various products on the web such store are also known as Online Store. For example, Amazon is the most popular online store. If a store is have products online and distributing it using online catalog, product return are very obvious and unavoidable.

Reverse Logistics is the most challenging aspect of any Ecommerce business. Customer service is the most essential component to acquire and retain customers and handling of product return is a part of customer service.

So, to deal with the product return effectively and efficiently one has to consider the needs of the customers as well needs of the company in order to ensure cost minimization and the impact of the return on companies profitability. In order to have the most cost effective product return supply chain one of the major components is the Return Policy of the company.

1.1 Concept Development:

The concept development phase took a lot of time to narrow down the study. It started from the study of Ecommerce to Logistic customer side and supplier side. Out of which the reverse logistic aspect was taken. As the process continued the researcher thought of looking at the reverse logistic main point that is the Return Policy vis-a-vis the customer angle. For the company side the study looks into the answering question as to what happens after the product is returned.

1.1.1 Ecommerce:

Ecommerce companies do business using the web. Each company sells its product and services. There are different types of Ecommerce companies such as Business to Customer, Business to Business and so on. In our study we study the Business to Customer type of companies. The very movement they sell the product they will also face the issues and challenges of product returned by the customers. Now the returns are based on the return policies they set for each and every product. This return leads to another challenge of Reverse Logistics.

1.1.2 Reverse Logistics:

Traditionally reverse logistic is defined as a process of moving the product from its point of consumption to the point of origin to recapture value or ensure proper disposal. Reverse Logistic or Reverse supply chain lead to various other activities such as physical product movement, warehousing, repair, refurbishment, recycling, e-waste, after market call center support, reverse fulfillment, field service and many more activities depending on the product allowed to return, location and nature of product. Logistics is defined by The Council of Logistics Management as: "The process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in process inventory, finished goods and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements".

Reverse logistics includes all of the activities that are mentioned in the definition above.

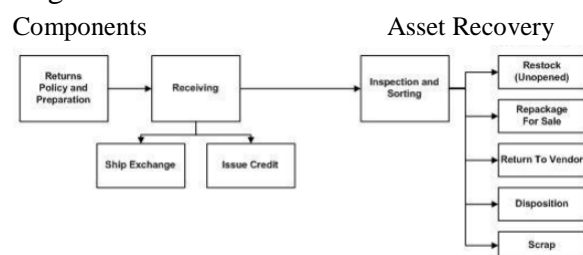
1.1.3 Ecommerce – The Customer and Reverse Logistics:

A customer is likely to return the products purchased, there are various reasons for the return. Few of the reasons are:

- Deliberate Returns
- Mis-delivered or Undelivered Goods
- Damaged Goods
- Malfunctioning Goods
- Exchange Programs

For a customer the return policy is of great importance, as these policy lay down the rule of product return because all the products cannot be returned hence this is a very important aspect of Ecommerce purchase. The customer may have a good or a bad experience while returning the product. A customer who is able to return the product or exchange the product with little pain is likely to be a satisfied customer. And a satisfied customer is likely to be a customer for a long time. And a regularly satisfied customer will become a loyal customer.

1.1.4 Key Components of Ecommerce Reverse Logistics:



←--Customer Satisfaction→ ←--Corporate Satisfaction--→

(Source: Adam Robinson May 2014)

The above figure breaks the return process in four steps:

1. Return Policy and Product return Preparation.
2. The dispatch to collection centers or the couriers.
3. The receiving process by the company that includes Inspection and Sorting.
4. The Asset recovery or refurbishing process.

Customer Satisfaction arises when the process of product return is easy and smooth. Which include steps such as 1) Return Policy, 2) Preparation for the product such as re packing etc. 3) The easy of pickup centers or the pickup courier coming personally to pick the product, 4) Refund or Replacement as per the return policy.

Corporate Satisfaction happens when the product is receive in the receiving office, then the product is inspected and sorted and finally classified restocking, re packing for sales, return to vendor, disposition, return to scrap as the case may be.

II. OBJECTIVES

1. To study the perception of return policy of online purchases
2. To study the customer experiences about return policy of online purchases
3. To study the customer satisfaction about return policy of online purchases
4. To study the customer loyalty for Ecommerce company
5. To study relationship between experiences and satisfaction about return policy of online purchases
6. To study relationship between satisfaction and loyalty toward Ecommerce company
7. To study the actions taken by the Ecommerce company about the returned products
8. To study the problems faced by the Ecommerce companies with respect to reverse logistics.
9. To study various reverse logistic implementation barriers.

HYPOTHESIS

H₀₁ There is no significant relationship between experiences and satisfaction about return policy of online purchases

H₁₁ There is a significant relationship between experiences and satisfaction about return policy of online purchases

H₀₂ There is no significant relationship between satisfaction and loyalty toward Ecommerce Company

H₁₂ There is a significant relationship between satisfaction and loyalty toward Ecommerce Company

Variables: Customer Perception, Customer Experience, Customer Satisfaction, Brand Loyalty, Barriers

Mumbai is a highly populated city and a financial capital of India. Mumbai also has cross cultural complex city as all types of people belong to various cast, creed, religion, language live in it. This makes it an appropriate city for various studies and survey. As per 2011 census Mumbai region has a population of 1.84 crores. The sample size calculation was as follows using sample size calculator online website.

III. RESULTS

Sample Size Calculator

Find Out The Sample Size

This calculator computes the minimum number of necessary samples to meet the desired statistical constraints.

Result

Sample size: **385**

This means 385 or more measurements/surveys are needed to have a confidence level of 95% that the real value is within $\pm 5\%$ of the measured/surveyed value.

Confidence Level: <input type="text" value="95%"/>	
Margin of Error: <input type="text" value="5%"/>	
Population Proportion: <input type="text" value="50%"/>	Use 50% if not sure
Population Size: <input type="text" value="18400000"/>	Leave blank if unlimited population size.
<input type="button" value="Calculate"/> <input type="button" value="Clear"/>	

The result showed 385 or more surveys.

For the survey the researched purchased a database for Ecommerce Company which sells such authenticate database. The customer angle questioner was sent to 1000 of respondent out of which 460 completely and accurately filled responses were selected.

For the company angle the researcher contacted company executive using his personal contact it was purposive type of selection and around 10 such

executive at the level of Manager to CEO were selected and interviewed.

Questionnaire Mapping:

The customer angle questioner had following questions:

Ob no	Objective	Corresponding Questions
1	To study the perception of return policy of online purchases	Q8, Q9 ,Q10 ,Q11
2	To study the customer experiences about return policy of online purchases	Q12 ,Q13
3	To study the customer satisfaction about return policy of online purchases	Q14, Q15 attributes
4	To study the customer loyalty of e-commerce company	Q16
5	To study relationship between experiences and satisfaction about return policy of online purchases	Statistical tool correlation
6	To study relationship between satisfaction and loyalty toward e-commerce company	Statistical tool correlation
7	To study the actions taken by the Ecommerce company about the returned products	Company point of view Interview question
8	To study the challenges faced by the Ecommerce companies with respect to product return.	Company point of view Interview questionpoint of view

9	To suggest ways to meet the major challenges faced by the Ecommerce companies	Company point of view Interview question point of view
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Cronbach's Alpha Thumb Rule:

The Cronbach's Alpha as per thumb rule indicates a good Internal Consistency as it well above "a \geq 0.9"

Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	on	N of Items
0.956	0.956		47

Objective 1: To study the perception of return policy of online purchases

Interpretation of Objective 1:

Question 8 is to ascertain how many times in a month people purchase for Ecommerce sites. We see that 55% is 2 to 5 times in a month. This increase the importance of having a flexible and robust return policy. Also as discussed with the company executives they also mentioned the same. In case they want a repeat customer the return policy have to be customer friendly and return process should be robust. So a customer perceives the Ecommerce companies positively if the return policy and process is in place.

Question 9 asks the customer to rate various Ecommerce parameters. We find that the Indian customers rate the privacy and security aspect as very high and aspects such as Timely delivery, product return policy/refund policy and Service and support as High. Rest of parameters such as Product information, past experiences, online rating, payment option, reputation and brand and order placing process come in moderate category.

Question 10 this question do you read the return and refund policy we see that 48% read the policy only for high valued purchase, for around 44% it

doesn't matter and there is merely an 8% who reads it for all purchase. This can be agreed upon as we see in the previous question the product return policy and refund policy is rated as high but not very high. Only the high values purchase makes customer go through the return and refund policy. This high value will once again differ for customer to customer.

Question 11 this question tries to find out various reasons for return. In this question we find that quality not as expected is the highest reason for return. This situation also is supported by the company executive in the interview. This situation is high especially for appraisals and electronic items as described by the company professionals. The change of mind is also an interesting reason for return. After ordering the product and by the time the product is received the customer changes his or her need or requirement and returns the product. The third highest reason is the receiving of part orders. The fourth highest is the deliberate return. The deliberate return aspect is the cause of big pain for the companies. This has been elaborated in the customer case later.

Objective 2: To study the customer experiences about return policy of online purchases

Interpretation of Objective 2:

The question 12 on return experiences the research highlights that the areas where the company had contributed in the process such as the company had made arrangements for pick up, where the customers were kept informed about the return processing and where the product replacement or refund received in time are at the positive side experiences. But areas where the customers had to make efforts to courier, go to the pickup center, make the parcel are not the positive experiences. So we can clearly see that where ever there is direct company support is positive and vice versa. The question 13 also supports the experience. We can see that the major reason for not return of product is due to lack of support from company staff. The

second highest is the low valued items purchases which can be ignored or fore gone by the customers.

Objective 3: To study the customer satisfaction about return policy of online purchases

Interpretation of Objective 3:

Question 14 and 15 are the questions regarding the satisfaction level of customer with regards the return process and return policy attributes.

In both the questions we see that the satisfaction level is moderated. This indicates that the Ecommerce companies must look at their return process and policy attribute more analytically and see what needs to be done to increase the satisfaction level of customers.

Thus we can conclude that there is no significant relationship between experience and satisfaction.

Objective 4: To study the customer loyalty for Ecommerce companies

Interpretation of objective 4:

Question 16 is for the loyalty check and if we analyses the responses we finds that the customer will repurchase from the site if they are satisfied with the return policy and process. Plus they will also recommend to others. But the third question of switching the site indicates that the customer rating to high and extremely high has reduced. This indicates that they will not switch so easily if they are satisfied. So there is a significant relationship between the satisfaction and loyalty.

Hypothesis Testing:

Objective 5: To study relationship between experiences and satisfaction about return policy of online purchases

Descriptive Statistics			
Objective 5	Mean	Std. Deviation	N

Total Experience	31.4478	4.66100	460
Total Satisfaction	76.3587	21.92659	460
Correlations			
Hypothesis 1		Total Experience	Total Satisfaction
Total Experience	Pearson Correlation	1	.006
	Sig. (2-tailed)		.890
	N	460	460
Total Satisfaction	Pearson Correlation	.006	1
	Sig. (2-tailed)	.890	
	N	460	460
Correlation between Customer Experience & Customer Satisfaction is not significant. Hence Null Hypothesis is retained.			

Objective 6: To study relationship between satisfaction and loyalty toward Ecommerce company

Descriptive Statistics			
Obj 6	Mean	Std. Deviation	N
Total Satisfaction	76.3587	21.92659	460
Total Loyalty	11.0826	2.35094	460
Correlations			
Hypothesis 2		Total Satisfaction	Total Loyalty
Total Satisfaction	Pearson Correlation	1	.357**

	Sig. (2-tailed)		.000
	N	460	460
Total Loyalty	Pearson Correlation	.357**	1
	Sig. (2-tailed)	.000	
	N	460	460
**. Correlation is significant at the 0.01 level (2-tailed).			
Correlation between Customer Satisfaction & Customer Loyalty is significant at 0.0001 level. Hence Null Hypothesis is rejected.			

COMPANY ANGLE OBJECTIVES

Objective 7: To study the actions taken by the Ecommerce company about the returned products

Objective 7 the actions taken by Ecommerce companies about return of products is as follows: The product returned is classified into two Return to Order (RTO) and Return to Vendor (RTV). The RTO is a common term used in Ecommerce logistics. It occurs when the package is not delivered to the customer. There are various reasons for the packet to be returned. Few of the reasons are mentioned below:

- The customer is not available to receive the package.
- The customer denies receiving the package.
- The address or other relevant information of the buyer is incorrect.
- The door/ premise/ office is closed.
- Failure in re-attempt for delivery
- In most of the cases, the package isn't immediately returned to the seller's origin. Once the order has been given a non-delivered status from the courier, the following course of actions take place:
- Most of the courier services attempt a re-delivery of the order, at most 3 times.

- The courier/ seller calls the customer and asks for a favorable delivery time.
- Some of the couriers also send a text message or an IVR call to the customer, to know whether they would want to receive the parcel or decline it.
- If the customer is not reachable by whether of the methods or declines the order, an RTO is generated.
- The order is then sent back to the seller's registered address.
- Return to Origin or RTO is classified into four categories depending on their nature.
- Reship immediately and expect a return.
- Reship immediately and don't expect a return.
- Wait for return and reship.
- Wait for return and cancel.

The Return to Vendor (RTV) involves the following activity:

- Return of goods
- Repair
- Resend replacement, Otherwise refund for the good

Refurbished Products:

The RTV leads to another activity the refurbished products. India accounts to a huge market for this kind of market which has made Amazon and Flipkart to launch a separate segment in their website.

Objective 8: To study the problems faced by the Ecommerce companies with respect to reverse logistics.

After various discussion the problem can be classifies into the following category:

1. High cost related to reverse logistic
2. Insufficient investment in information technology specially in India

3. Problems related to product return and reverse logistic process
4. Organizational or management related problems
5. Problem with supply chain partners
6. Customer related problems

Objective 9: To study various reverse logistic implementation barriers.

After discussing with the logistic arm of various Ecommerce companies the reverse logistic implementation barriers can be classified as follows:

Internal Barriers:

1. Organizational and Management related barriers (People)
2. Technology and Infrastructural barriers (Technology and Infrastructural)
3. Finance as a barrier (Finance)

External Barriers:

1. Economy related barriers(Economy)
2. Market environment as a barrier (Market)
3. Customer related barriers(customer)

IV. CONCLUSIONS

This paper talks about the E-commerce reverse logistics and its impacts on customer satisfaction level. The study shows the need of new innovative methods to cut cost at the same time increase efficiency in the delivery process which leads to customer delight. There are various factors play major role to improve services on the side of company. This requires change in the current regulation to introduce change in the mindset of public also.

Customer is God. The paper shows that the reverse logistics creates positive impact on experiences which leads to increase satisfaction in online transactions. The satisfaction helps to increase the loyalty of the brand. The companies must be having

justifications for the barriers in reverse logistics services. The modern era shows the need to adapt changing environment to survive in online market. The global competition shows the importance to adopt changes with the help of modern communication technologies and information systems.

The improvement of logistics areas based on the use of modern information and communication technologies to support logistics management of the company brings about positive results in all of them. In e-commerce, transactional elements of logistics service are crucial, particularly the availability of products and services, communication rapidity between the contractors of commercial operations, lead time, scope of the activity, flexibility and reliability of supply. Business entities, operating in the conditions of high competition on the market, are forced to constantly adapt processes, technologies and systems to produce goods and provide services to satisfy buyers' needs. The direction of development of e-logistics is determined by consumers, therefore, the implementation of innovative technologies and the search for their new applications are the necessary operations in this segment.

This paper talks about the E-commerce logistics in supply chain management from a practice perspective. Due to the fast development and large influence of E-commerce, logistics has been greatly changed compared with several decades ago. This paper highlights the logistics models and supporting techniques which have improved the E-commerce logistics significantly. Worldwide implementations such as North America, Europe, and Asia Pacific are reported. Typical E-commerce companies are reviewed in this paper aiming to get the opportunities and future perspectives which may be used for guiding practitioners and academia when contemplating E-commerce logistics and supply chain management in the near future.

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