

Customer Perception and Preference Towards In-House Logistics and Outsource Logistics Model in Maharashtra (India)

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Abstract:

In this current dynamic market environment and turbulent time of COVID-19 the role and performance of logistic services has increased manifold. The logistics service provider has contributed to innovations and delivery in their customer's supply chain in recent time and hence they are important and relevant to the marketer's revenue and profit creation. This article emphasizes on customer perceptions and preference towards in-house logistic and out sourcing logistics decisions. The questions faced by the manufacturer and marketers are: Why to outsource? How to outsource? What to outsource? Where to outsource? When to outsource? etc. The study and analysis of the various literature and research published earlier reveals that outsourcing in the White goods industry and FMCG is very competitive, service oriented and inclined towards third party logistic model (3PL). This study is based on the qualitative and quantitative research of in-house and outsource logistics model in the state of Maharashtra (India). For this research paper, primary data is collected via Google Doc and Likert scale is used for the analysis.

Keywords: Customer Perception, preference, In-house logistics, Outsourcing, 3PL, etc.

I. INTRODUCTION

The logistics industry has undergone a sea change in terms of technology, competitiveness and service orientations. The manufacturers and marketers are now keen on concentrating on the Quality, Price and Promotion of the product instead of Physical distribution and Logistics. This has made them more dependent and consistent towards 3PLs for product delivery. Third party logistics is used for traditional logistics functions, like transportation or warehousing and for other services, such as reverse logistics and supply chain management. It has been estimated that about 40% of the global logistics is outsourced. (Wong et al. 2000).

Logistics is a process and organizations of movement of goods across the supply chain of a company till it reaches its end user. This setup consists of various functions that have to be properly accomplished to bring effectiveness and efficiency

for the organization.

DEFINITIONS:

1) In-house Logistics: In-house Logistics is defined as organization, linkages, controlling and communication for physical distribution of the product by the manufacturing firm to its End-user.

Here all the onus and responsibility lies on the manufacturing firm to efficiently deliver and serve the supply chain and the end-users. The Logistics function of the firm behaves as a separate and independent entity in most of the cases.

In-house logistics means handling materials and products within own organization. There are various services and functions for in-house logistics like Order processing, Inventory control, Warehousing, Transportation, Material handling and storage system, Logistical packaging, Information

etc.

2) Outsourced logistics is simply 3PL or third Party logistics. That is the collaborating with a logistics provider to tackle all or part of your logistic services

The 3PL provider in India are highly fragmented owing to the presence of several established logistics service providers focusing on leveraging advanced technologies such as digitalization for offering effective and end- to-end solutions to the different end-users.

II. ORIGIN OF 3PL SERVICES

1PL: Previously, the producer owned the transport and warehouse and its in-house department managed the end-to-end supply chain for its products, starting from sourcing raw material to final delivery.

2PL: After 1PL now was a time for 2PL with involvement of logistics vendors to partner with the manufacturers for transportation and warehousing assets.

3PL: The current market scenario is intended for third party logistics player who manages 3600 services related to logistics which includes like Order processing, Inventory control, Warehousing, Transportation, Material handling and storage system, Logistical packaging, Information etc.

The use of third party logistics (3PL) services is becoming an important factor for development of logistics strategies for many companies in India.

Following are the Key demand drivers and indicators that can take the Indian industry size to USD17bn by 2025:

- a) A mindset change to outsource logistics to 3PL players
- b) Internet dissemination and e- commerce success
- c) An asset light model to facilitate scalability through partnership with asset owners
- d) Extensive use of technology
- e) Regulatory reforms such as GST, e-way etc.

There are many companies still turn to in-house fulfillment for a number of reasons, including:

- No third party will know their business like they do themselves
- It's easier to resolve issues when you're dealing with them in-house
- Changes and adjustments are easier and faster to make
- It can be difficult to sever relationships with 3PLs once they are established
- Client relations can be hard to manage when you've relinquished control over deliveries
- Communicating with third party drivers can get difficult

However, there are also plenty of advantages to putting this task into the hands of a third party:

- An unbelievable amount of resources are used to fulfill in-house shipments, which also means a larger staff is needed
- Wages paid to additional staff will likely outweigh the costs associated with outsourcing the work to a 3PL
- 3PLs have access to information about the most competitive rates, and can compare and select the best one available
- Generally, third party logistics companies have low overhead costs
- They've always got the latest, most up-to-date technology

III. REVIEW OF LITERATURE:

Dr. Somuyuwa Adebambo, Odepidan Omolola, and Dr. Dosunmu Victor A (2016) explained in their paper about outsourcing logistics activities contributes to organizations ability to control costs, improve customer service and allow company to focus on its core competencies. The study proved that manufacturing companies outsource various activities mostly transportation, as it is important in distribution process.

Hrusecka Denisa, Macurova Lucie, Jurickova Eva, Kozakova Leona (2015) proved in their article that Czech companies use logistics outsourcing less often than companies in other regions of the world. The reasons for outsourcing are lower costs and assistance in the areas where they lack their own

capacities. Also they identified that the mixed system combining the use of in-house and third party facilities are the most suitable for the majority of Czech manufacturing companies.

Xu Yang (2014) written a article "Status of Third Party Logistics" and conclude that, outsourcing logistics functions to 3PLs is a major trend. Third party logistics used to provide services such as warehousing and transportation. 3PLs have a significant impact on not only the past and the present, but also the future.

Richard Wilding and Rein Juriado (2004) found in their study that outsourcing in the consumer goods industry is less cost-driven and over two thirds of companies manage at least one logistics function with a mixed system. They also identified that the primary reasons for switching 3PLs relate to service and delivery timeliness is the most common performance indicator. In addition, researcher considered following previous survey for the reasons for outsourcing:

Laarhoven et al. (2000) mentioned the reasons for outsourcing as 1) Cost reduction 2) Service improvement 3) Strategic flexibility 4) Focus on core business 5) Change implementation. In percentage, that companies outsourcing the logistics functions are network based transport (70%), emergency transport (70%), storage (87%), Order picking (79%), inventory management (64%), tracking (64%), order entry (11%), forecasting (2%), labeling (52%) and customization (26%). Also about the factors affecting 3PL partnership with outsourcing, 50% users were highly satisfied and contract renewal rate was high. Key success factors were well-defined requirements, procedures & system, top management involvement and clear separation of responsibilities.

Boyson et al. (1999) mentioned reasons for outsourcing as 1) Cost saving and revenue improvement 2) Outsourcing for other business 3) Outsourcing was major problem of the company 4) Re-designing the supply chain. In percentage that companies outsourcing the logistics functions are freight (57%), career selection (24%), shipment

planning (18%), fleet management (17%), warehouse operations (29%), inventory management (8%), information system (20%), packaging (15%), product return (15%). Also key success factors with managing 3PL partnership were information sharing and cooperative monitoring and joint review meetings.

Fernie (1999) put the reasons for outsourcing as 1) Provide more operational flexibility 2) Allows financial resources to be focus on core business 3) Use 3PL expertise services 4) Providing more specialist services 5) Incline to be cost efficient.

IV. RESEARCH METHODOLOGY

In order to accomplish the aims of the study, researcher has used questionnaire tool as a means of primary data collection for the comparison between in-house and outsourcing logistics. A questionnaire was design in GoogleDoc and e-mailed to the logistics managers and support staff of over 300 manufacturing and logistics companies in and around Maharashtra (India). A number of semi-structured interviews were undertaken with logistics consultants and directors in logistics industry. The primary data was then analyzed with the help of statistical tools like percentage analysis, Likert Scale and z-test.

OBJECTIVES OF THE STUDY:

- To compare the customer perception and preference towards in-house logistics and third party logistics service provider in Maharashtra (India).
- To measure the cost effectiveness of In-house logistics and Outsource logistics in Maharashtra.
- To examine the logistics process efficiency of in-house logistics and 3rd party logistics (3PL) provider in Maharashtra (India).
- To understand the factors responsible for success and failure of outsourcing logistics services.

HYPOTHESIS OF THE STUDY:

H0-There is no significant variance between customer's perceptions and preference towards

service & quality issue of in-house logistics and outsources logistics.

H1- There is a significant variance between customer's perceptions and preference towards service & quality issue of in-house logistics and outsources logistics.

DATA COLLECTION & ANALYSIS:

Sample size: 300, Responses received: 274

While asking respondents about the in-house logistics department, out of 274 respondents, 118 respondents (43%) having in-house logistics department whereas 156 (57%) do not have in-house department and their companies use 3PL services.

Table 1:Opinion about parameters for not outsourcing the logistics services

Parameters	Agree	Percentage	Neutral	Percentage	Disagree	Percentage
Service and quality issue	77	65	12	10	29	25
Cost issue	47	40	18	15	53	45
Trust and communication problem	24	20	9	8	85	72
Change management	79	67	11	9	28	24
Poor management	28	24	34	29	56	47
No value added	61	52	13	11	44	37
Financial instability	81	69	13	11	24	20
Acceptability of trade credit	22	19	9	8	87	74
Risk	54	46	16	14	48	41

Source: Primary Survey data

Analysis 1:When assessing the opinion about the parameters why they have not prefer outsourcing services, out of 118 (43%) respondents, most of the respondents (65%) agreed on service & quality issue, but there is mixed reaction on cost issue as 40% respondents are agreed &45% disagreed on the same. Even there is no problem of trust& communications as 85% disagreed on this. In addition, change management is not acceptable as

67% agreed on the same, and there is mixed reaction on no value adding and risk factor of the services as 52% agreed & 37% disagreed and respondents disagreed on acceptability of trade credit & 74% disagreed.

This shows that service & quality issue, change management, no value adding and financial instability are the parameters for not outsourcing the logistics services

Table 2:Assessment on performance measure while using third party logistics

Parameters	Satisfied	Percentage	Neutral	Percentage	Dis-satisfied	Percentage
Delivery timeliness	106	68	17	11	33	21
Cost	28	18	24	15	104	67
Overall quality	85	54	9	6	62	40
Inventory management	56	36	21	13	79	51
Picking accuracy	24	15	10	6	122	78
Responsiveness and flexibility	20	13	17	11	119	76
Documentation	113	72	8	5	35	22
Receiving /unloading and dispatch/loading	106	68	17	11	33	21
Variation in actual and expected performance	32	21	21	13	103	66
Overall service	53	34	15	10	88	56

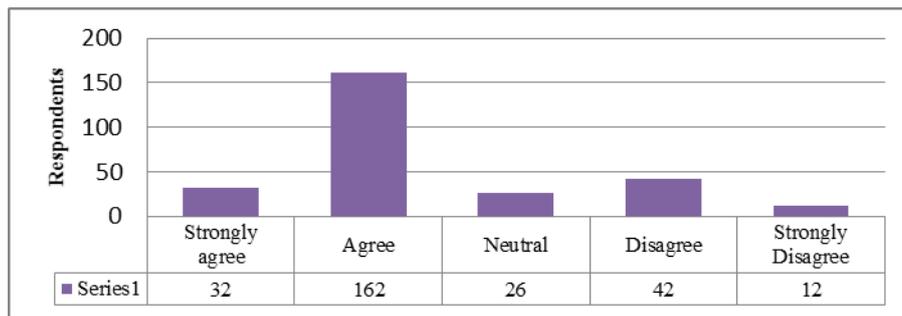
Source: Primary Survey data

Analysis 2:While assessing the performance measure

while using third party logistics services, it has been observed that out of 274 respondents, 156 (57%) do not have their own in-house logistics, 68% respondents are satisfied with the delivery timeliness, 67% are not satisfied with the cost-wise service, there is mixed reaction on overall quality as 54% are satisfied and 40% are dis-satisfied, 51% respondents are not satisfied with the inventory management by third party also dissatisfied (76%) with the responsiveness and flexibility

This shows that except responsiveness & flexibility issue and variation in actual & expected performance, overall delivery, cost, quality, inventory management, picking accuracy, documentation, loading & unloading activities and overall services, respondents are satisfied with the third party logistics.

Figure 1: Opinion about the third party logistics will help to reduce logistics costs of the company

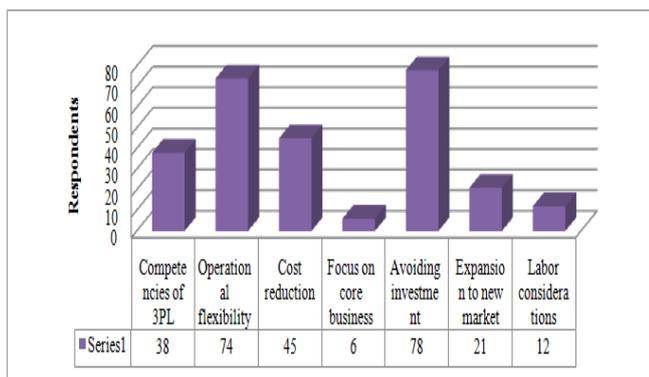


Source: Primary Survey data

Analysis 3: While assessing the above question it has been observed that out of 274 respondents, maximum respondents agreed on third party logistic will help to cut logistics costs of the company. 71% agreed, 19% disagreed and 9% have no reaction on the same. This shows that by various means while using third party logistics will help to minimize the costs of the company.

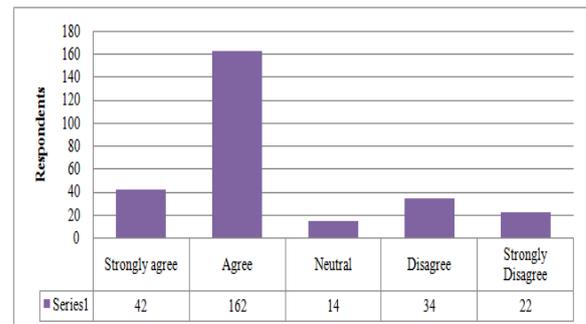
Analysis 4: After assessing about the parameters while outsourcing the logistics service providers, it has been observed that out of 274 respondents, avoiding investments (28%) and operational flexibility (27%) are the major parameters while outsourcing the logistics service provider

Figure 2: Parameters while outsourcing the logistics service provider



Source: Primary Survey data

Figure 3: Assessments on using third party logistics will simplify operations



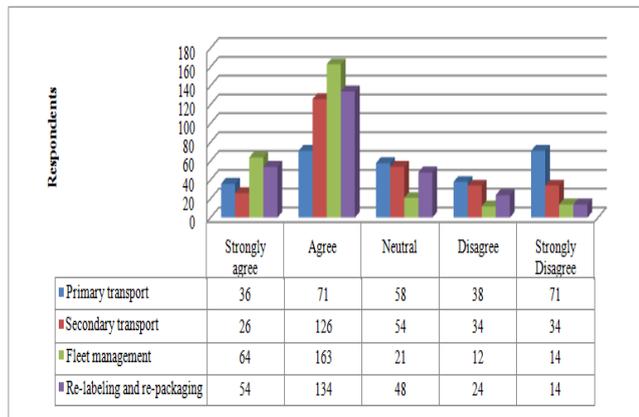
Source: Primary Survey data

Analysis 5: From the graph, it has been observed that out of 274 respondents, majority of the respondents agreed (74%) for using third party logistics services, various operational hurdles and

difficulties can be simplify easily.

Also while assessing about the satisfaction level with the third party logistics, 196 (71%) respondents are satisfied with the services provided by the third party logistics.

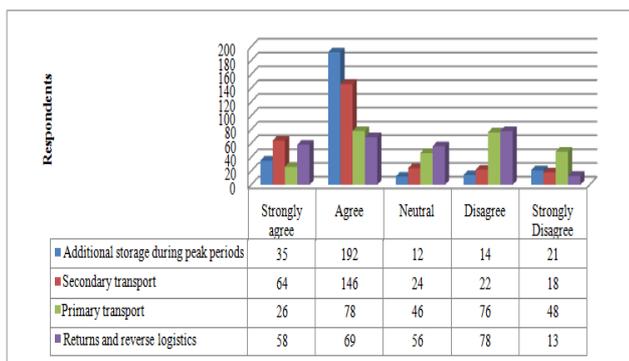
Figure 4: Opinion on Logistics functions most commonly outsourced



Source: Primary Survey data

Analysis 6: While assessing the parameters on which logistics functions most commonly outsourced, out of 274 respondents there is mixed reaction on primary transport 39% respondents are using their own transport 40% disagreed, this means they are outsourcing the primary transport also. 57% respondents prefer for secondary transport, 82% prefer to opt fleet management and 69% respondents agreed that they prefer to outsource the services like re-labeling & re-packaging.

Figure 5: Respondents opinion on Logistics functions most commonly managed as a mixed system

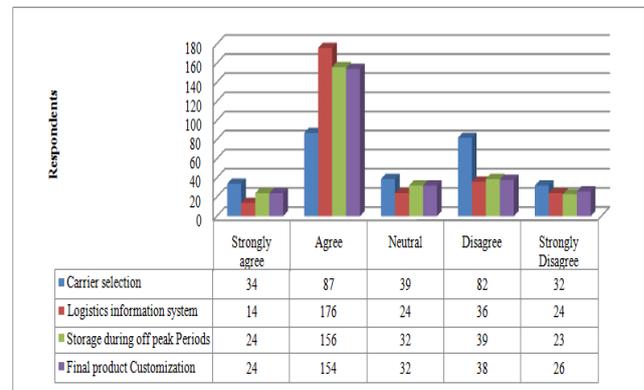


Source: Primary Survey data

Analysis 7: While assessing the parameters on which logistics functions most commonly managed as

mixed system i.e. in-house and outsource also, during the peak period and when there is requirement of additional storage, also whenever there is requirement of primary and secondary transport and return & reverse logistics issues there is utilization of mixed system.

Figure 6: Opinion on Logistics functions most commonly kept fully in-house



Source: Primary Survey data

Analysis 8: While assessing the parameters on which logistics functions most commonly kept in-house, out of 274 respondents most of the respondents are using logistics information system in-house as customer's data is important in business and whenever there is final product customization & storage during off peak periods, in-house services are used. While carrier selection there is mixed response from respondents as there may use mixed system for the same.

HYPOTHESIS TESTING:

Null Hypothesis (H0): There is no significant variance between customer's perceptions and preference towards service & quality issue of in-house logistics and outsources logistics.

Alternative Hypothesis (H1): There is significant variance between customer's perceptions and preference towards service & quality issue of in-house logistics and outsources logistics.

Table 3: z-Test: Two Sample for Means

z-Test: Two Sample for Means		
Mean	26.25	36
Known Variance	5	5
Observations	4	4

Hypothesized Mean Difference	0
Z	-6.166441437
P(Z<=z) one-tail	3.4922E-10
z Critical one-tail	1.644853627
P(Z<=z) two-tail	6.98439E-10
z Critical two-tail	1.959963985

Source: Primary Survey data

Using the z-test of two sample for service & quality issue of not outsourcing the logistics services and overall quality of using third party logistics, it is observed that the critical value of z two-tail is not greater than 1.96, hence we got sufficient statistical significant to accept null hypothesis i.e. There is no significant variance between customers perceptions and preference towards service & quality issue of in-house logistics and outsources logistics.

V. CONCLUSION:

This research study on 'Customer Perception and Preference towards In-House Logistics and Outsource Logistics Model in Maharashtra (India)' provides some interesting and useful understandings of customer perceptions and preference of 3PLs within the manufacturing and logistics industry. It shows that how an outsourcing functions in logistics is more effective and efficient than in-house logistics. However, this survey has shown that most of the companies in Maharashtra (India) are actually using a mixed system with both the model as and when required.

The study established and recognized the findings of earlier research for the use of 3PLs for usefulness and convenience of manufacture in terms of performance revenue and cost. The primary reasons for switching 3PLs relate to avoiding investment and operational flexibility. It is also proved that, there is no significant difference between customer's perceptions and preference towards service & quality issue of in-house logistics and outsources logistics.

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