

A STUDY ON THE 3PL SERVICES AND THEIR PERFORMANCE

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Abstract

Third Party Logistics services are gaining their foothold in India. Even during the Covid-19 pandemic, although there were certain difficulties with relation to the lockdown, the logistics sectors boomed through growth in e-commerce where more customers were purchasing online than before. The respondents were customers of Blue Dart DHL, one of the top companies in India. The research paper tried to study the factors that influenced 3PL customers. Factor analysis was done to identify the variables of customer satisfaction. The importance of 3PL is services in India keeps on rising with upcoming business opportunities.

Keyword: 3PL, Factor Analysis, E-Commerce, Customer satisfaction, Logistics.

1.INTRODUCTION

The study is directed to comprehend the effect of 3rd party logistics in e-commerce concerning Blue dart . Required data and information is gathered through survey. Services provided by third-party logistics providers do not include delivery only. Some providers target specific regions and regions. With the rise of technological advances, many suppliers have expanded their services by consolidating transportation services with government and contract warehouses, and consolidating goods and freight. Many companies also offer different types of freight forwarding to their customers.

Technology is at the heart of third-party logistics. Warehouse storage has evolved from simply storing food with a focus on optimizing inventory management and sourcing goods efficiently. Companies using third-party logistics may provide additional services including

forecasting, detailed reporting, shipping management software, and freight bill audits. In the present study an attempt has been made to study the factors that influence the customers with reference to Blue dart ,Cochin.

Advances in digital technology, changing consumer preferences for e-commerce, government reforms and shifting service sourcing strategies are expected to transform the Indian logistics ecosystem.

Digitization will increase the efficiency and effectiveness of cargo management and port operations. Warehouse automation improves operational efficiencies and helps withstand industrial supply chain pressures. Increasing investments in infrastructure, last mile communications and new technologies are optimizing India's logistics landscape.

India's GDP is expected to reach \$3.2 trillion in 2020, accounting for around 4% of global GDP. Strong growth supported by government reforms, transport sector initiatives, a surge in retail sales and the e-commerce sector are likely to be key drivers for India's logistics industry.

Online freight forwarding platforms and aggregators have proliferated in the Indian logistics market given the low barriers to entry and the need for low capital investment compared to building an asset-centric business model. India's manufacturing industry can provide up to 25-30% of GDP by 2025, which will boost growth in India's warehouse sector.

Blue dart is South Asia's premier courier, and integrated express package Distribution Company incorporated in 1991. They have the most extensive domestic network covering over 35,004 locations, and service more than

220 countries and territories worldwide through their group company DHL, the premier global brand name in express distribution services. From this study it is found that majority of outsourced e-commerce services are warehouse, packaging, transportation, customer feedback and reverse logistics. This study suggests that companies should work towards improving the level of service offered so that the customers are highly satisfied and this would bring in more customers and more business.

Supply Chain Management (SCM) has developed as one of the most impressive business improvement apparatuses. Providers, makers, wholesalers, retailers and a large group of administration associations have found that they should either change their activities and strategies or on the other hand be beaten by rivalry from increasingly forceful gracefully arranges. The targets of these systems are to energize item and administration advancement with a view to fulfill the last client. These associations see the benefit of coordinating frameworks and flexibly chain activities over the full scope of segment work.

Logistics startups in India have been firmly established since the advent of e-commerce and there are several new companies gaining traction in the industry. Online platforms have increased competition and reduced transportation costs thanks to real-time data availability and transparent value chains. It is essential for logistics service providers to innovate and adapt to changing logistics conditions.

1.1 Scope of The Study

The extent of the investigation is restricted to Blue Dart organization. Flexibly chain the board rehearses are exceptionally wide field territory. Out of these various practices, this investigation is engaged just on the developments of products.

1.2 Statement of The Problem

Third party logistics has a major role in any of the businesses. With 3PL supply chains can be expanded quickly, effectively and also in a cost effective manner. This study is conducted to know the factors that were

dominant in the logistics sector with reference with Blue dart.

1.3 Objectives

To study the factors that influence the operations of logistics services.

2. REVIEW OF LITERATURE

Logistics Performance Measurement is an essential tool that allows businesses to measure and compare their performance to the past and to others. Additionally, it is a metric that is viewed and monitored in relation to the customer.

Because performance is a multidimensional subject (Chow et al., 1994), performance measurement is an multi-field domain (Kucukaltan et al., 2016) and it is desirable to measure both short-term and long-term, making performance measurement difficult. Performance measurement plays a crucial role for both businesses and logistics organizations. Logistics performance can be thought of as a subset of the broader concept of organizational performance (Chow et al., 1994).

When it comes to logistics productivity, there are many conflicting goals and many service metrics like lead times, low logistics costs, and on-time delivery. Therefore, there are various definitions and systems for measuring logistical performance (Chow et al., 1994; Töyli et al., 2008).

Previous literature highlights the logistics performance of effectiveness and efficiency of achieving a task (Mentzer & Konrad, 1991; Fugate et al., 2010).

On the other hand, prior literature has asserted that the 3PL supplier selection criteria can be employed for performance measurement by identifying the relationship between logistics related performance and customer satisfaction (Zailani et al., 2017). Various definitions of logistical performance in the literature have led to differentiation of variables that will be used to measure logistical performance. On the other hand, because logistics performance is closely linked to the dynamics within a company and customer opinions,

studies related to logistics performance in the literature also differ depending on where data is collected. A lot of these studies focus on the effectiveness of outsourced logistics activities, which have been measured through 3PL or customer judgment. Some other studies are devoted to the implementation of logistical activities in companies whose main activity is not logistics.

There have been previous published literature where the evaluation of 3PL companies were done by the companies themselves and not from the customer perspectives(Lai, 2004; Wang et al., 2010; Liu & Lyons, 2011; Mothilal et al., 2012; Karia & Wong, 2013; Karagöz & Akgün, 2015). Similar studies where the respondents were employee of these companies to assess the performance of 3PL companies (Bülbül et al. , 2013)

Previous literature has used multiple variables like customer service, delivery speed and delivery reliability and also financial variables to measure performance of 3PL(Wang et al. ,2010; Mothilal et al. ,2012; Liu & Lyons , 2011; Karia & Wong , 2013)

Logistics performance evaluation across various sectors were found in different research literature related to manufacturing and retail industries from customer perspective (Zailani et al, 2017; Li, 2011)

Another interesting literatures were found where the performance related studies of logistics activities was done by companies who do not have logistics as their core business((Fawcett & Cooper, 1998; Schramm-Klein & Morschett, 2006; Töyli et al., 2008; Daugherty et al., 2009; Fugate et al., 2010). Extant literature shows that the customer satisfaction related to e-commerce is depend on logistics services (Vasić et al, 2021).

3. RESEARCH METHODOLOGY

Research Type: The type of research used in this study is descriptive.

Sampling Technique: The sampling technique used in this study is convenient sampling.

Sample Size: The sample size used in this study is 117.This includes customers of Bluedart logistics services in Cochin region.

Data Collection: Data collection was done through google forms. The survey was done related to Bluedart customers of Cochin, Kerala.

Statistical Tools And Technique : The tools used in this study are proportionate analysis and factor analysis .

4. RESULTS AND DISCUSSION

Table 1: Demographics of Respondents

Demographic characteristic	Percentage of Respondents (%)
Age Group	
18 -30	86
31- 40	4
41 – 50	5
51 and above	4
Gender	
Male	56
Female	43
Occupation	
Student	65
Business	10
Salaried	22
Homemaker	3

Table 2: FACTOR ANALYSIS
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.741
Bartlett's Test of Sphericity	Approx. Chi-Square	264.155
	df	66
	Sig.	.000

From the table KMO value is "0.741" (sample adequacy ratio). Therefore, the sample size is just adequate to conduct the study. n SPSS. The sampling is adequate or

sufficient if the value of Kaiser Meyer Olkin (KMO) is larger than 0.5 Field (2000), according to Pallant (2013) the value of KMO is 0.6 and above. Kaiser (1974) recommends a bare minimum of 0.5 and the value between 0.5 and 0.7 are mediocre, value between 0.7 and 0.8 are good, value between 0.8 and 0.9 are great and value between 0.9 and above are superb (Hutcheson & Sofroniou, 1999). From the table Bartlett's test significant value is "0.000". Therefore, reject the null hypothesis. The strength of the relationship in SPSS can be measured by a Bartlett Test of Sphericity. It is actually a measure of a multivariate normality of set of distribution. This test also checks the null hypothesis that the original correlation matrix is an identity matrix. The significant value less than 0.05 indicates that these data do not produce an identity matrix and are thus approximately multivariate normal and acceptable for further analysis (Pallant,2013).

Table 3
Communalities

	Initial	Extraction
Quality	1	0.685
Logistics_Part_Company	1	0.597
Improve_Logistics	1	0.585
Problem Solving	1	0.634
Cost	1	0.498
Training	1	0.682
Reverse Logistics Usage	1	0.424
IT	1	0.474
Customer Availability	1	0.647
E_Commerce	1	0.572
Damage	1	0.643
Convenience	1	0.59

Extraction Method: Principal Component Analysis.

From the output of Communalities table which shows how much of the variance in the variables has been

accounted for by the extracted factors. The table shows all the variables have variance greater than .5. Therefore, none of the variables were removed from the Factor analysis stage. The variable -"Quality" accounts for 68.5% of the variance while the next highest variance was accounted for by the variables, "Training" with 68.2 % of variance. The lowest variance was shown by the variable," Reverse logistics usage " with approximately 42.4 % was accounted for.

Table 4
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.269	27.244	27.244	3.269	27.244	27.244	2.143	17.86	17.86
2	1.534	12.783	40.026	1.534	12.783	40.026	2.096	17.465	35.325
3	1.259	10.492	50.518	1.259	10.492	50.518	1.5	12.501	47.825
4	0.968	8.07	58.588	0.968	8.07	58.588	1.292	10.763	58.588
5	0.953	7.943	66.532						
6	0.881	7.342	73.874						
7	0.675	5.624	79.498						
8	0.628	5.233	84.73						
9	0.531	4.425	89.155						
10	0.487	4.061	93.216						
11	0.433	3.609	96.825						
12	0.381	3.175	100						

Extraction Method: Principal Component Analysis.

From this table, it proves that the first factor accounts for "27.24%" of the variance, the second "12.78%" and the third "10.492%". The Fourth and final factor accounts for "8.070%". All the remaining factors are not significant. The twelve variables were reduced to four components.

Table 5
Rotated Component Matrix^a

	Component			
	1	2	3	4
Quality	0.401	0.306	-0.12	-0.645
Logistics_Part_Company	0.44	0.609	-0.054	-0.173
Improve_Logistics	0.376	0.653	-0.119	-0.058
Problem Solving	-0.01	0.775	0.178	0.041
Cost	-0.072	0.224	0.66	0.079
Training	0.791	0.066	0.229	-0.005
Reverse Logistics Usage	0.196	0.592	0.107	0.15
IT	0.6	0.262	-0.157	0.141
Customer_Availablity	0.118	0.275	-0.486	0.566
E_Commerce	0.724	0.209	-0.051	0.044
Damage	0.092	-0.021	0.791	0.088
Convenience	0.268	0.101	0.217	0.679

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Rotated component matrix generated four components which were identified. Based on the results of Factor analysis, the first component was named as "Information Technology Factors" which included Quality, Training, E-Commerce and IT. The second component was named as "Logistics Factors" which included Problem Solving, Logistics to be Part of Company, Improve Logistics, Reverse Logistics Usage. The third component was named as "Cost factors" which included Damage, Cost. The final component was "Customer Factors" which were namely- Convenience, Customer Availability.

Similar study show that Cost and Quality are important factors related to customer satisfaction when its comes to Logistics services (Lang, 2020). Similar study by related to the challenges in implementing container terminal system at Port of Mombasa, has highlighted factors like technology, organisational and environmental issues (Gekara et al, 2020). A report published based on their investigation, came to find that the major issues are are port congestion, customs clearance, shipping line issues & charges, documentation & paperwork and regulatory clearance

(Dun & Bradstreet, 2018). The factors mentioned in this report has similar factors to this research which included procedure, delivery, performance, charges as contributing factors to challenges in ports. Literature review related to the expansion of Logistics services to companies other than the parent company was found which stressed the importance of 3PL(Vignesh, 2019). Recent literature have stresses the relevance of 3PL service irrespective of the fact that the customer may purchase online or or not (Ngha et al, 2021).

5. CONCLUSION

Third party logistics having good scope in India as well in foreign market. It manages, support and fulfill customer demand in all service regions. This research paper investigated the factors that were influenced in the 3PL business scenario. Previous literature published studies have also strengthened the findings were the factors of Cost and quality have been factors that were associated with customer satisfaction in Logistics business. The factor analysis in this research brought about some key components like IT factors, Logistics factors, Cost factors and Customer factors which influenced the Third part logistics business. Most of the companies are outsourcing these activities to concentrate on their core business. So the outsourcing companies are giving importance to the reduction in the cost to gain the advantage of the lower cost in the competitive business. So most of the 3PL service providers gives importance to reduced cost for most important success factor. This can be achieved by giving more emphasis on variables like geographical coverage, experience as a 3PL provider and continuous improvement. The cost can be reduced by vast geographical coverage, higher experience for giving particular types of the service and emphasis on continuous improvement.. Information technology system is also important for success of the business. By concentrating more on this factor the company can easily and effectively share and convey the information with the end user. This can also improve the speed and accuracy of the work and hence better satisfaction to the customer. This would increase the profit and improves the brand image of the company

6. REFERENCES

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