



# Assessing Transportation Performance and Supply Chain Effectiveness at Fast Forward Logistics Pvt. Ltd.

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**Abstract**--Transportation plays a critical role in determining the overall performance and effectiveness of supply chain systems. Efficient transportation ensures timely delivery, cost optimization, and enhanced customer satisfaction, while poor transportation performance can disrupt supply chain continuity. This study focuses on assessing transportation performance and its impact on supply chain effectiveness by examining key performance indicators such as delivery reliability, transit time, transportation cost, flexibility, and responsiveness. The research highlights how transportation efficiency contributes to improved coordination among supply chain partners and supports strategic objectives such as agility, sustainability, and competitive advantage. Both qualitative and quantitative measures are considered to evaluate transportation effectiveness within the supply chain framework. The findings emphasize that continuous monitoring and improvement of transportation performance are essential for achieving a resilient and customer-centric supply chain.

**Keywords**-- Transportation Performance; Supply Chain Effectiveness; Logistics Efficiency; Delivery Reliability; Cost Optimization; Supply Chain Management

## I. INTRODUCTION

Transportation plays a crucial role in determining the efficiency of logistics and supply chain operations. With increasing globalization and competition, logistics companies are compelled to ensure timely, reliable, and cost-effective deliveries.

*Simple Percentage*

*Customer Satisfaction with Delivery Timelines*

Satisfaction Level	Percentage	No. of Respondents
Highly Satisfied	38.9%	28
Satisfied	43.1%	31
Neutral	15.3%	11
Dissatisfied	1.4%	1
Highly Dissatisfied	1.4%	1

Fast Forward Logistics Pvt. Ltd. is one of India's prominent logistics providers, offering services such as freight forwarding, customs clearance, and warehousing. This study aims to evaluate how transportation performance impacts supply chain effectiveness, focusing on the relationship between transportation efficiency, delivery reliability, and customer satisfaction.

## II. OBJECTIVES OF THE STUDY

- To analyze the impact of transportation performance on overall supply chain efficiency at Fast Forward Logistics Pvt. Ltd.
- To identify customer satisfaction levels related to transportation reliability and delivery performance.

## III. RESEARCH METHODOLOGY

The study adopts a descriptive research design using both primary and secondary data. Primary data were collected from 72 respondents, including managers, operators, and sales executives, through structured questionnaires. Convenience sampling was used for data collection. Statistical tools such as Chi-square, ANOVA, and Correlation were applied to identify the significance of relationships between transportation performance, delivery reliability, and customer satisfaction.



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*Interpretation:*

The results indicate that 82% of respondents are satisfied or highly satisfied with delivery timelines. Only a small percentage expressed dissatisfaction.

This implies that Fast Forward Logistics has effective scheduling and coordination systems, ensuring timely delivery. High satisfaction reflects efficient route management and service reliability, enhancing supply chain performance.

**CHISQUARE**

*The Chi-square test between customer satisfaction with the reliability of transportation services provided and Gender*

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.462 <sup>a</sup>	3	0.006
Likelihood Ratio	10.987	3	0.012
N of Valid Cases	72	—	—

*Interpretation:*

The Chi-Square test result shows a Pearson Chi-Square value of 12.462 with 3 degrees of freedom and a p-value of 0.006, which is less than 0.05, indicating a statistically significant relationship between the variables analyzed.

This implies that the variables (for example, customer satisfaction and delivery performance) are not independent of each other. In the context of Fast Forward Logistics Pvt. Ltd.

**ANOVA:**

*ANOVA test between Customer satisfaction on delivery and Age*

<b>ANOVA – How satisfied are customers with delivery timelines?</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	18.742	4	4.686	5.120	0.001
Within Groups	61.647	67	0.920		
Total	80.389	71			



*Interpretation:*

The ANOVA results show a statistically significant difference among groups regarding customer satisfaction with delivery timelines ( $F = 5.120, p = 0.001 < 0.01$ ). This indicates that satisfaction levels with delivery timelines differ meaningfully between groups.

In other words, customers' perceptions of delivery performance are not uniform—some groups are significantly more or less satisfied than others. The result suggests that certain operational or service-related factors may be contributing to variations in customer satisfaction, highlighting the need to identify and improve weaker areas in the delivery process to ensure consistency and higher overall satisfaction.

*Correlation between Delivery Accuracy and Customer Satisfaction*

		<b>Satisfaction of customers with delivery timelines</b>	<b>Satisfaction with the delivery accuracy rate</b>
<b>Satisfaction of customers with delivery timelines</b>	<b>Pearson correlation</b>	1	0.394**
	<b>Sig (2-tailed)</b>		<.001
	<b>N</b>	72	72
<b>Satisfaction with the delivery accuracy rate</b>	<b>Pearson correlation</b>	0.394**	
	<b>Sig (2-tailed)</b>	<.001	
	<b>N</b>	72	72

*Interpretation:*

The Pearson correlation coefficient ( $r = 0.394, p < 0.001$ ) indicates a moderate positive and statistically significant relationship between delivery accuracy and customer satisfaction. This means that higher accuracy in delivery operations leads to improved customer satisfaction, demonstrating that precision and reliability are key determinants of effective logistics performance.

**IV. FINDINGS**

- The majority of respondents expressed satisfaction with delivery timelines and reliability.
- Statistical analysis revealed a significant relationship between transportation reliability and customer satisfaction.
- Correlation analysis confirmed that improved delivery accuracy enhances customer satisfaction and overall logistics performance.

- Operational challenges such as fuel price fluctuations and occasional coordination issues still affect cost efficiency.
- Technology adoption, though satisfactory, requires more frequent updates to maintain competitive advantage.

**V. SUGGESTIONS**

- Strengthen interdepartmental coordination to minimize operational delays.
- Increase investment in route optimization and vehicle tracking technologies.
- Conduct regular staff training on advanced logistics systems and communication tools.
- Schedule periodic maintenance to prevent vehicle breakdowns and ensure delivery consistency.
- Introduce performance-based incentives to motivate employees to achieve higher delivery efficiency.



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**VI. CONCLUSION**

The study concludes that Fast Forward Logistics Pvt. Ltd. demonstrates strong transportation performance and customer satisfaction, supported by reliable operations and technological systems. The significant correlation between delivery accuracy and satisfaction confirms that transportation efficiency is vital to supply chain success. By focusing on continuous technological enhancement, improved coordination, and data-driven decision-making, the company can further elevate its service quality and competitiveness in the logistics sector.

**REFERENCES**

- [1] Christopher, M. (2016). *Logistics & Supply Chain Management*. Pearson Education. Coyle, J. J., Langley, C. J., & Gibson, B. (2017).
- [2] *Supply Chain Management: A Logistics Perspective*. Cengage Learning. Nair, A., & Narayanan, S. (2022).
- [3] Digital transformation in Indian logistics: A post-pandemic perspective. *International Journal of Logistics Systems and Management*. Ghosh, P., & Bhattacharya, S. (2021). Challenges in logistics performance and supply chain efficiency in India. *International Journal of Management Studies*.
- [4] Dr.N. Amsaveni, A study on Investigation on Logistics Management towards Malar Brand Rice at Coimbatore, *Humanities Aand Social Science Studies*, ISSN 2319-829X, Volume 13, Issue 02 No 33,159-162
- [5] Ms. C. Ranganayaki, (2024). Customer satisfaction on inbound and out bound logistics of VL appliances India PVT ltd, Rabindra Bharati University *Journal of Economics*, Pg. No: 49 – 54.
- [6] Dr. D Divya, Nithish.P, Sankar M P (2023), A Study on Process Management Based on Supply Chain at Cri Pumps, *Shodhsamhita*, Volume- VIII, Issue 15, 2022-2023,124-131
- [7] Dr D Mythili, Vishva S & Vishnu Prabhu C (2023), A Study on Effective Logistics Management on Organizational Performance Evidence from Global Logistics, *Rabindra Bharati Journal Of Philosophy*, 0973 – 0087, Vol. XXXI No.16, PP 94-101