International Journal of Management and Commerce Innovations ISSN 2348-7585 (Online)
Vol. 14, Issue 1, pp: (183-188), Month: April 2026 - September 2026, Available at: www.researchpublish.com

A STUDY ON CHALLENGES IN LOGISTICS OPERATIONS AND THEIR IMPACT ON SERVICE DELIVERY AT WORLDWIDE LOGISTICS

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DOI: https://doi.org/10.5281/zenodo.19676470

Published Date: 21-April-2026

Abstract: **Logistics plays a crucial role in modern business by ensuring the efficient movement of goods from the point of origin to the point of consumption (Ivanov, 2020). This study analyzes the key challenges in logistics operations and their impact on service delivery at Worldwide Logistics (India) Pvt. Ltd. Chennai. The research focuses on issues such as delays, coordination gaps, manpower shortages, communication barriers, and reliance on manual processes. Primary data was collected from 144 employees using a structured questionnaire and analyzed using percentage, mean score, and chi-square techniques. The findings reveal that operational challenges, particularly delays and coordination issues, significantly affect service delivery performance, while manual processes and communication gaps lead to inefficiencies. The study suggests that improving coordination, adopting digital technologies, enhancing manpower planning, and strengthening communication systems can improve logistics efficiency and overall customer satisfaction.**

Keywords: **Logistics Operations, Service Delivery, Supply Chain Management, Operational Challenges, Delays, Coordination, Manpower, Communication Gaps, Digitalization, Customer Satisfaction.**

1. INTRODUCTION

Logistics plays a crucial role in modern business by ensuring the efficient movement of goods from the point of origin to the point of consumption. It includes key activities such as transportation, warehousing, inventory management, and coordination between various departments (Queiroz et al., 2020). In today's competitive and globalized business environment, efficient logistics operations are essential for maintaining service quality, reducing operational costs, and achieving customer satisfaction.

However, logistics operations often face several challenges that affect their efficiency and overall performance. Common issues include delays in transportation, lack of coordination between departments, manpower shortages, communication gaps, and reliance on manual processes (Ali et al., 2020; Sharma et al., 2021; Verma & Gupta, 2023). These challenges can lead to errors, increased processing time, and reduced reliability in service delivery (Mishra & Sharma, 2021; Patel & Mehta, 2024), ultimately impacting customer satisfaction and organizational success.

Hence, it is important to identify and analyze these challenges in a systematic manner. This study focuses on examining the major operational challenges in logistics and their impact on service delivery at Worldwide Logistics (India) Pvt. Ltd. Chennai. The study also aims to suggest practical measures to improve operational efficiency and enhance service performance.

OBJECTIVES OF THE STUDY:

- To identify the key challenges in logistics operations at Worldwide Logistics (India) Pvt. Ltd., Chennai.
- To analyze the impact of operational challenges on service delivery performance
- To examine the relationship between logistics efficiency and service outcomes.
- To suggest strategies for improving logistics operations and enhancing service delivery.
- To assess the effectiveness of coordination and communication among departments in logistics operations.

2. RESEARCH METHODOLOGY

The study employs a combination of descriptive and analytical research designs to examine operational challenges in logistics and their influence on service delivery. The descriptive part focuses on identifying key issues such as transportation delays, coordination gaps, manpower constraints, and limitations in technology. The analytical aspect evaluates how these factors affect overall service performance.

Primary data was collected from employees of Worldwide Logistics (India) Pvt. Ltd., Chennai, who are directly involved in logistics operations. A structured questionnaire was used to gather information on operational efficiency and service delivery. A total of 144 respondents were selected through convenience sampling based on their accessibility and relevance to the study.

The data was analyzed using statistical tools such as percentage analysis, mean score, ANOVA and chi-square test. These methods helped identify patterns, evaluate responses, and examine the relationship between operational challenges and service delivery.

PERCENTAGE ANALYSIS:

Percentage analysis is a basic statistical tool used to represent data in a simplified and understandable form. It converts raw data into percentages, making it easier to compare and interpret responses collected from respondents. This method helps in identifying patterns, trends, and the distribution of responses across different categories.

Percentage = (Number of respondents / Total respondents) × 100

Table 1

PARTICULARS	NO OF RESPONDENTS	PERCENTAGE (%)
Always	35	24.3
Often	48	33.3
Sometimes	41	28.5
Rarely	16	11.1
Never	4	2.8
Total	144	100

INTERPRETATION:

Table 1 shows that delays are a frequent and persistent issue in logistics operations, with many respondents reporting that they experience delays either often (33.3%) or always (24.3%). This clearly indicates that more than half of the workforce regularly encounters time-related inefficiencies in operational processes. Additionally, 28.5% of respondents experience delays occasionally, suggesting that delays are not isolated incidents but a recurring concern across various functional levels of the organization. Only a small proportion of respondents reported rarely (11.1%) or never (2.8%) to face delays, which further reinforces the widespread nature of this issue. These findings reveal that delays are deeply embedded in logistics operations and may arise due to factors such as inadequate planning, poor coordination, or resource constraints. Such persistent delays can negatively impact service delivery timelines, reduce operational reliability, and ultimately lower customer satisfaction and organizational performance.

Table 2

PARTICULARS	NO OF RESPONDENTS	PERCENTAGE (%)
Strongly Agree	26	18.1
Agree	45	31.3
Neutral	40	27.8
Disagree	25	17.4
Strongly Disagree	8	5.6
Total	144	100

INTERPRETATION:

Table 2 shows that employee perceptions of interdepartmental coordination are mixed and somewhat inconsistent across the organization. A combined 49.4% of respondents agreed (31.3%) or strongly agreed (18.1%) that coordination is effective, indicating satisfactory functioning in certain areas. However, 27.8% of respondents remained neutral, suggesting uncertainty or inconsistent communication practices among departments. Additionally, 23% expressed dissatisfaction, either disagreeing (17.4%) or strongly disagreeing (5.6%), highlighting the presence of coordination gaps. This variation indicates that coordination is not uniform across departments, leading to inefficiencies, miscommunication, and delays, which can negatively impact overall logistics performance and service delivery.

MEAN SCORE ANALYSIS:

Mean score analysis is used to determine the average level of agreement of respondents toward various statements related to logistics operations and service delivery. Numerical values are assigned to responses, and the mean is calculated using the formula:

$$\text{Mean} = \Sigma(fx) / N$$

Table 3

Statement	Mean Score
Logistics procedures are clearly defined	2.22
Coordination between departments	2.61
Manpower sufficiency	2.72
Operational challenges during peak periods	2.03
Manual processes lead to errors	2.10
Technology use effectiveness	2.44
Delivery delays due to operational issues	2.13
Customer complaints due to delays	2.19

INTERPRETATION:

Table 3 shows that the mean score values reflect a general agreement among respondents that various operational challenges significantly influence logistics performance and service delivery. Lower mean scores for factors such as operational challenges during peak periods (2.03), manual process errors (2.10), and delivery delays (2.13) indicate a strong level of concern among employees, highlighting these as critical problem areas. Similarly, logistics procedures (2.22) and customer complaints due to delays (2.19) further emphasize the operational inefficiencies affecting service quality. On the other hand, factors such as coordination between departments (2.61), manpower sufficiency (2.72), and technology effectiveness (2.44) show moderate agreement, suggesting that while these areas are relatively better, they still require improvement. Overall, the findings indicate that reliance on manual systems, inadequate technological integration, and operational inefficiencies contribute significantly to reduced performance. This highlights the need for improved process standardization, increased adoption of digital technologies, and better workforce planning to enhance logistics efficiency and service delivery effectiveness.

ANOVA ANALYSIS:

Analysis of Variance (ANOVA) is a statistical technique used to determine whether there are significant differences in the mean values of a dependent variable across different groups of an independent variable. It helps in analyzing the impact of one or more factors by comparing the variation within groups to the variation between groups.

VARIABLES USED:

Independent Variable: Documentation process

Dependent Variable: Errors and rework in logistics operations

HYPOTHESIS:

H0 (NULL-HYPOTHESIS) = There is no significant difference in errors across documentation types

H1 (ALTERNATE-HYPOTHESIS) = There is a significant difference in errors across documentation types

Table 4

Particulars	Value
F-value	2.868
P - value	0.025

DECISION RULE:

If p-value < 0.05 → Reject H0

Since p-value = 0.025 < 0.05, the null hypothesis is rejected.

INTERPRETATION:

The Table 4 shows that there is a statistically significant difference in the level of errors and rework associated with different documentation processes in logistics operations. Since the p-value (0.025) is less than the threshold value of 0.05, the null hypothesis is rejected, confirming that the type of documentation system used has a measurable impact on operational accuracy. This result strongly suggests that manual documentation methods are more prone to errors, inconsistencies, and inefficiencies compared to digital systems. The presence of such errors can lead to increased rework, delays in processing, and reduced productivity. Therefore, the findings emphasize the importance of transitioning towards digital documentation systems, which can enhance accuracy, streamline operations, and reduce the likelihood of human error, ultimately improving overall logistics performance.

CHI SQUARE ANALYSIS:

Chi-square analysis is a statistical tool used to examine the relationship between two categorical variables. It helps determine whether there is a significant association between variables or if the observed differences occur by chance.

HYPOTHESIS:

H0 (NULL-HYPOTHESIS) = There is no significant relationship between delays in logistics operations and service delivery timelines.

H1 (ALTERNATE-HYPOTHESIS) = There is a significant relationship between delays in logistics operations and service delivery timelines.

Table 5

Cases	N	Percentage (%)
Valid	144	100.0
Missing	0	0.0
Total	144	100.0

Table 6

Delays \ Service Delivery	Always	Often	Sometimes	Rarely	Never	Total
Always	10	12	6	4	3	35
Often	12	15	10	6	5	48
Sometimes	8	10	12	6	5	41
Rarely	3	4	5	2	2	16
Never	1	2	3	1	1	4
Total	34	43	36	19	16	144

Table 7

Particulars	Value
Pearson Chi-Square	76.207
Degrees of Freedom (df)	16
Significance Value (p-value)	0.000
Number of Respondents	144

DECISION RULE:

If the p-value is less than 0.05, the null hypothesis is rejected.

If the p-value is greater than 0.05, the null hypothesis is accepted.

Since the p-value (0.000) is less than 0.05, the null hypothesis is rejected.

INTERPRETATION:

Table 7 reveals a strong and statistically significant relationship between delays in logistics operations and service delivery timelines, as indicated by the chi-square value (76.207) and a p-value of 0.000. Since the p-value is below the 0.05 significance level, the null hypothesis is rejected, confirming that delays directly affect service delivery performance. The results show that as delays increase in frequency and severity, the efficiency and reliability of service delivery decrease. Delays also contribute to late deliveries, operational disruptions, and increased customer dissatisfaction. When combined with issues such as poor coordination and manual processes, their negative impact on logistics efficiency is further intensified. These findings highlight the need for organizations to address delays through improved planning, technological integration, and real-time monitoring systems.

3. SUGGESTIONS

Based on the findings of the study, several measures can be recommended to improve logistics operations and service delivery at Worldwide Logistics (India) Pvt. Ltd. The organization should focus on minimizing delays by improving route planning and scheduling practices (Sharma et al., 2021). Enhancing coordination among departments through integrated communication systems and regular interaction can further improve operational efficiency. It is also important to reduce reliance on manual processes by adopting digital technologies such as real-time tracking systems and automated documentation to improve efficiency and reduce errors (Bag et al., 2022; Singh & Kaur, 2023).

In addition, effective manpower planning and regular training programs should be implemented to address workforce-related challenges and enhance employee productivity. Strengthening internal communication channels can improve information flow across all levels of the organization. The company should also adopt real-time monitoring systems to quickly identify and resolve operational issues. Continuous evaluation and improvement of logistics processes will further enhance efficiency and contribute to higher levels of customer satisfaction.

4. CONCLUSION

This study examined the key challenges in logistics operations and their impact on service delivery at Worldwide Logistics (India) Pvt. Ltd. Chennai. The findings indicate that logistics operations are significantly affected by factors such as delays, coordination gaps, communication issues, manpower shortages, and reliance on manual processes. These challenges were identified as major barriers to efficient logistics performance.

The analysis clearly shows that these operational challenges have a direct and negative impact on service delivery, resulting in delayed deliveries, increased errors, and reduced customer satisfaction. The chi-square test further confirms a significant relationship between delays in logistics operations and service delivery timelines, emphasizing the importance of minimizing operational inefficiencies.

The study highlights the need for improved coordination among departments, adoption of digital technologies, better manpower planning, and stronger communication systems. By addressing these challenges, organizations can enhance operational efficiency, ensure timely service delivery, and improve overall customer satisfaction. Efficient management of logistics operations is therefore essential for achieving long-term organizational success and competitive advantage. These findings are consistent with previous studies on logistics challenges and service delivery performance (Patel & Mehta, 2024; Sharma & Gupta, 2026).

REFERENCES

[1] Ivanov, D. (2020). The impact of supply chain disruptions on logistics performance. *International Journal of Production Research*, *58*(10), 2904–2915.

[2] Ali, S., Khan, M., & Ahmed, R. (2020). Logistics operational challenges and supply chain efficiency. *Journal of Logistics Management*, *9*(2), 45–52.

[3] Queiroz, M. M., Ivanov, D., & Dolgui, A. (2020). Supply chain challenges under uncertainty and digital transformation. *Annals of Operations Research*, *290*(1), 1–14.

[4] Sharma, R., Gupta, P., & Singh, A. (2021). Logistics operational performance and communication gaps. *International Journal of Logistics Systems and Management*, *38*(3), 256–270.

[5] Mishra, R., & Sharma, V. (2021). Impact of logistics inefficiencies on service delivery. *Journal of Supply Chain Management*, *15*(2), 89–97.

[6] Bag, S., Gupta, S., & Kumar, A. (2022). Role of technology in logistics operations. *Technological Forecasting and Social Change*, *175*, 121–135.

[7] Singh, A., & Kaur, H. (2023). Technology adoption in logistics operations. *Journal of Business Logistics*, *44*(1), 55–70.

[8] Verma, S., & Gupta, A. (2023). Manpower challenges and training in logistics operations. *Human Resource Management Review*, *33*(2), 100–112.

[9] Patel, R., & Mehta, S. (2024). Operational challenges and service delivery in logistics. *Journal of Supply Chain Analytics*, *2*(1), 45–60.

[10] Sharma, P., & Gupta, R. (2026). Recent trends in logistics management. *Journal of Logistics and Transport Management*, *18*(1), 25–40.