

A Study on the Efficiency of Logistics and Its Impact on Performance in VRL Logistics LTD

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Abstract: The logistics sector contributes significantly towards the movement of goods and services; therefore, logistics efficiency has an important bearing on organizational effectiveness. In the highly competitive business world, logistics efficiency has taken a central stage due to its significance in ensuring timely deliveries at reduced costs with improved services. This paper explores the effect of logistics efficiency on organizational effectiveness using VRL Logistics Ltd. as a case study. The paper uses primary data from 110 respondents comprising employees, customers, and logistics practitioners. The survey tool for data collection was a structured questionnaire. Data obtained was analyzed using various statistical techniques such as percent analysis, chi-square test, ANOVA test, and correlation analysis.

Results indicate that logistic efficiency helps increase delivery speed while reducing operational costs and improving customer satisfaction. It was established that variables such as route optimization, use of technology, and inventory management, among others, play an instrumental role in increasing efficiency. Nonetheless, there are certain issues such as delays and logistical problems. In conclusion, it can be stated that increased logistical efficiency significantly improves the performance of VRL Logistics Ltd. The report stresses that there is a need to improve technology, train employees, and improve processes to ensure better results.

Keywords: Logistics Efficiency, Organizational Performance, VRL Logistics Ltd, Supply Chain, Customer Satisfaction.

I. INTRODUCTION

The logistics sector plays a crucial role in fostering economic development by ensuring that commodities are efficiently transferred from one point to another. It plays a key role in boosting trade, commerce, and the growth of industries in any nation. The performance of organizations in this contemporary world mainly relies on how effective the logistics of these businesses are. Apart from ensuring that goods reach their intended destinations within the shortest time possible, logistics can help reduce costs, enhance client satisfaction, and improve organizational performance. Some of the activities associated with logistics include transportation, storage, warehousing, order fulfilment, and delivery, among others. These activities need coordination and synchronization for the operations of a company to run smoothly. In the past, most logistics activities were carried out manually, making them less efficient because of problems like inefficiency, delays, added cost, and lack of coordination, among others. Today, things have changed as logistics operations have been transformed with the use of technology. VRL Logistics Ltd. is one of the major logistics service providers in India, providing a variety of logistics services, including parcel delivery, transport, and other solutions related to this field. This enterprise helps link different regions together as well as transport the products. Being an efficient logistics company, VRL Logistics Ltd. has to be efficient in performing its operations since the level of service and organizational efficiency is highly connected to it. Efficient logistics operations involve efficient route planning, timely deliveries, proper handling of inventories, and effective usage of modern technologies. Nowadays, logistics has significantly changed because of the application of different modern

technologies. Modern TMSs (Transportation Management Systems), WMSs (Warehouse Management Systems), and other systems have revolutionized logistics operations. With the help of such systems, logistics can optimize their routes, reduce time and costs required for deliveries, minimize risks of any kind of mistakes, and improve communication processes. In addition, modern logistics is capable of monitoring the state of affairs on the spot thanks to modern tracking technologies. The application of logistics management makes it possible to perform tasks faster and more efficiently and ensures customer satisfaction. Customers are now expecting quick and reliable services and need transparency in their transactions. Therefore, there is a need for the continuous improvement of the efficiencies of logistics companies. Nonetheless, even with all the improvements in technology, logistics companies are faced with problems like traffic, logistical constraints, fluctuating prices of fuel, and poor coordination.

Hence, there is a need to analyze the effect of the efficiencies of logistics activities on organizational performance. This study seeks to investigate the influence of logistics efficiency on the performance of VRL Logistics Limited. The factors to be evaluated will include performance in delivery, efficiencies in costs, quality of services offered, and customer satisfaction. Primary data will be collected and analyzed using respondents from the company under investigation. The results of this research will shed light on how the efficiencies of logistics activities can be improved to boost organizational performance.

OBJECTIVES OF THE STUDY

- To study the effectiveness of logistics in the company.
- To find out the effect of logistics effectiveness on the overall performance.
- To consider aspects like speed, efficiency, and quality of service.
- To look at customer satisfaction concerning logistics services provided by the company.
- To find out what challenges affect logistics effectiveness.
- To establish the link between operational effectiveness and overall performance.

II. REVIEW OF LITERATURE

Vrijhoef and Koskela (2025), in their paper “The Four Roles of Supply Chain Management in Construction,” studied the peculiarities of supply chain management in the construction industry. In particular, the authors singled out four roles of SCM and reviewed real-life cases concerning initiatives to enhance construction supply chains. As a result, it became evident that construction supply chains can have substantial waste and inefficiency even when no disruptions take place. Moreover, it was noticed that most of the problems occur in different phases than those in which they are recognized, suggesting that there is poor coordination along the supply chain. Additionally, outdated and shortsighted approaches in management were pointed out as important causes for inefficiencies. Finally, it should be emphasized that the research demonstrates the need to employ innovative and integrated techniques in order to enhance supply chains.

Van Donk and Akkerman (2025), in their research “Opportunities and Realities of Supply Chain Integration: The Case of Food Manufacturers,” considered the issues related to the achievement of integration in food manufacturing supply chains. Specifically, the researchers analyzed barriers to integration, including resource sharing, product characteristics, and uncertainties. In this research, barriers to integration were identified as the problem of limitations related to shared resource limitations, the nature of products, and uncertainties within the process itself. The researchers suggest that although the high level of implementation of supply chain integration can be seen as a relatively simple task within the food industry, many barriers exist. Using a case study methodology, the paper presents an overview of possible alternative ways to cope with planning and scheduling issues.

Chien, M. K., & Shih, L. H. (2023). Empirical research on the adoption of environmentally friendly practices in the supply chain in the electrical and electronics industry and its effect on organizational performance. In this study, the authors analyze the adoption of environmentally friendly practices in the supply chain. This study evaluates the implementation of environmentally friendly practices in the supply chain within the electrical and electronics industry in Taiwan in light of international environmental standards. Using the structural equation modeling approach, the authors demonstrate the correlation between the adoption of green practices in the procurement and manufacturing process and better environmental and economic performance.

III. RESEARCH METHODOLOGY

The type of research design that would be employed in the investigation would be descriptive. This is based on the need to analyze the effectiveness of logistics operations in terms of influencing organizational performance at VRL Logistics Ltd. It will enable identification of the effects of operational practices on organizational performance.

For the study, the method of sampling to be employed is convenience sampling. Primary and secondary data will be employed in the process. The sample will comprise 105 respondents, comprising employees, customers, and logistics specialists of VRL Logistics Ltd.

For the primary data collection, an online questionnaire will be used. This will entail questions relating to aspects like delivery performance, efficiency, services offered, and customer satisfaction. Secondary data will be acquired from journals, books, and other logistics documents. The data obtained will be analyzed using statistical tools such as percentages, chi-square tests, ANOVA, and correlation analysis, among others.

The Interpretation and Analysis of the Data Collected

Table No. 1: Age of the Respondents

Age Group	Number of Respondents	Percentage (%)
Below 25	18	17.10%
25 – 35	40	38.10%
35 – 45	27	25.70%
Above 45	20	19.00%
Total	105	100%

Source: Computing from Primary Data

As can be seen from the data, the majority of respondents (38.1%) belong to 25-35 age groups, followed by 25.7% who belong to the age group of 35-45 years. Nearly 19% are above 45 years and 17.1% below 25 years. This means that a majority of respondents are of the working age group.

Table No. 2: Occupation of the Respondents

Occupation	Number of Respondents	Percentage (%)
Employees	40	38.10%
Customers	30	28.60%
Logistics Staff	20	19.00%
Managers	15	14.30%
Total	105	100%

Source: Computing from Primary Data

According to the above table, 38.1% of the respondents are employees, followed by 28.6% who are customers, 19% logistics staff, and 14.3% managers.

Table No. 3: Efficiency in Delivery Performance

Opinion	Number of Respondents	Percentage (%)
Strongly Agree	40	38.10%
Agree	30	28.60%
Neutral	20	19.00%
Disagree	15	14.30%
Total	105	100%

Source: Computing from Primary Data

From the above table, we notice that 38.1% of the respondents strongly agree that logistics efficiency improves delivery performance. However, 19% remain neutral and 14.3% disagree. This indicates that the majority of respondents believe efficient logistics enhances delivery performance.

Table No. 4: Reducing Operating Expenses from Effective Logistics Management

Opinion	Number of Respondents	Percentage (%)
Strongly Agree	42	40.00%
Agree	33	31.40%
Neutral	18	17.10%
Disagree	12	11.40%
Total	105	100%

Source: Computing from Primary Data

From the above data analysis, 40% of respondents strongly agreed that effective logistics helps to reduce operating expenses, whereas 31.4% agreed with the assertion. Also, 17.1% had neutral opinions, while 11.4% disagreed with the assertion. Thus, it implies that logistics effectiveness is useful in achieving cost savings.

CHI SQUARE: Testing the Relationship between Logistics Effectiveness and Delivery Time

Null Hypothesis (H₀):

There is no significant relationship between logistics effectiveness and delivery time.

Alternative Hypothesis (H₁):

There is a significant relationship between logistics effectiveness and delivery time.

Chi-Square Test

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	98.542	9	0.000
Likelihood Ratio	110.214	9	0.000
Linear-by-Linear Association	25.678	1	0.000
N of Valid Cases	105		

Inference

The value of p is 0.000. Since the p value is < 0.05, then the null hypothesis is rejected. The alternative hypothesis will be accepted. It shows that there is a significant relationship between logistics efficiency and delivery performance.

ANOVA Test: Determining Impact of Occupation on Satisfaction Level

Null Hypothesis (H₀):

There is no significant relationship between occupation and satisfaction level.

Alternative Hypothesis (H₁):

There is a significant relationship between occupation and satisfaction level.

ANOVA Table

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.842	3	0.614	2.215	0.089
Within Groups	27.980	101	0.277		
Total	29.822	104			

Inference

The value of significance is 0.089, which is higher than 0.05. Thus, the null hypothesis is accepted. It means that there is no significant correlation between the occupation of the respondents and their satisfaction level regarding logistics services.

IV. SUGGESTIONS

- The organization needs to work on increasing the overall efficiency of logistics by pursuing advanced methods of operations to increase service quality and delivery performance.
- VRL Logistics Ltd ought to adopt appropriate investment appraisal methods to make sure that the monetary resources are used efficiently and yield the highest returns.
- The company can also implement some flexible credit policies to appeal to more customers, which will assist in increasing the business volume and customer retention.
- Cash management practices must be upheld to pay all operational costs as they fall due and not to run out of cash.
- The company ought to ensure that the operational costs and transportation costs are minimized through route optimization, fuel consumption, and distribution of resources.
- The introduction of completely computerized and automated systems of all the logistics processes can contribute to the minimization of time, decrease of the errors, and enhancement of efficiency.
- The company ought to aim at curbing high operation and maintenance expenses through cost-cutting measures and effective use of resources.
- By choosing economical means of transportation and enhancing communication in shipment planning, freight charges can be reduced.
- The company ought to implement new value-added services to increase customer satisfaction and offer superior logistic solutions.
- The inventory management systems and financial planning of warehousing operations should be enhanced so that the operations run smoothly.
- Employees should be taken through regular training programs to enhance their skills and flexibility to emerging technologies and logistics practices.
- The company would require using an advanced technology like a real-time tracking system and data analytics to enhance decision-making and operational performance.
- There should be good communication and coordination among various departments to minimize delays and enhance service delivery.
- Feedback about customers will be gathered and evaluated on a regular basis to determine what should be improved and how to improve the quality of services.
- The organization must keep on revising its logistics strategies to respond to the dynamism in the market and remain competitive in the industry.
- The focus on enhancing the transparency and reliability of logistics services should be placed on developing strong customer trust and relationships in the long term.

V. CONCLUSION

As it is demonstrated in the current study, logistics efficiency is one of the key drivers that allow VRL Logistics Ltd to improve the level of its performance. More efficient logistics lead to enhanced delivery performance, lower operational costs, and increased customer satisfaction. The results of the research reveal that there are particular activities that need to be performed in order to achieve high performance and competitiveness in the logistics market.

As a result of the survey, it can be seen that most of the participants of the survey have a very positive perception of the logistics efficiency of VRL Logistics Ltd. In particular, the company is viewed by customers in terms of timely delivery, better service quality, and better management in general. These factors allow the company to build strong relations with its clients and increase their trust.

At the same time, the research uncovers some challenges related to high costs, insufficient infrastructure, and occasional delays. In this case, it is possible to state that there are some areas that might have a negative impact on performance and

that need to be addressed. This issue can be solved with the help of technological improvements and employee training programs. In conclusion, the paper suggests that logistics efficiency plays a very important role in improving the performance of VRL Logistics Ltd. Through the use of technology and solving some of the prevailing problems, the company would improve its efficiency and remain competitive in the logistics industry. It should be noted that there is a need to continue improving logistics practices to remain relevant in the field.

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