Research Paper

A Study on the Effectiveness of Logistics Services in Real-Time Data Visibility

Dr. E. Dhanasekar[1], S. Guhan Kumar[2]

[1]Assistant Professor, Department of International Business, Dr. N.G.P Arts and Science College, Coimbatore.
[2]M. Com (IB), Department of International Business, Dr. N.G.P Arts and Science College, Coimbatore.

Corresponding Author: Dr. E. Dhanasekar

ABSTRACT

This study looks into how supply chain management's logistics services perform when real-time data visibility is available. The requirement for timely and reliable information has grown in importance due to the rising complexity and globalization of supply networks. This paper investigates the effects of real-time data visibility on inventory management, transportation logistics, and order fulfillment through an extensive examination of the literature and empirical analysis. The research design used for the study is Descriptive Research and Analytical Research designs. The sample size of 150 respondents is collected in Tirupur district. The Statistical tools used in the study is ANOVA. Results indicate that companies using advanced data visibility solutions save money, have more satisfied customers, and operate more efficiently. The report also emphasizes how crucial it is to make strategic investments in data visibility solutions if you want to stay competitive in the fast-paced corporate world of today. Future research prospects and their implications for management practice are also covered.

Keywords: Logistics services, Real-time data visibility, Tirupur district,

INTRODUCTION:

First of all, the effectiveness and dependability of logistics services are crucial for companies looking to satisfy client needs and keep a competitive edge in today's fast-paced global economy. Real-time data visibility has become essential in this setting, allowing businesses to watch, analyze, and optimize their supply chain processes with never-before-seen precision and agility.[1] Modern technologies like cloud computing, artificial intelligence (AI), and the Internet of Things (IoT) have completely changed the logistics sector by creating new avenues for cost- and operational efficiency improvements. Using these technologies, real-time data visibility gives stakeholders immediate access to relevant data regarding the flow of goods, inventory levels, transportation statuses, and other critical indicators. Notwithstanding the possible advantages, there is still a lack of knowledge on the actual efficacy of real-time data visibility in enhancing logistical services.[2] Although there is favorable anecdotal evidence supporting its impact, empirical research is required to fully comprehend its implications for supply chain management. By undertaking a methodical analysis of the efficacy of real-time data visibility in logistical services, this study seeks to close this gap. We want to evaluate the contribution of real-time data visibility to operational excellence and customer satisfaction by examining key performance indicators (KPIs) such as inventory turnover, on-time delivery rates, and cost reductions. Additionally, this study will investigate the difficulties and impediments related to

putting real-time data visibility systems into practice in various logistical scenarios.

Objectives:
- To evaluate the current logistical operations and data visibility systems within the organization.
- To analyze the impact of enhanced data visibility on logistical processes, including efficiency, accuracy, and cost-effectiveness.
- To assess the effectiveness of the implemented solutions through quantitative and qualitative measurements.

Research methodology:
- **Research design:** Descriptive Research and Analytical Research designs
- **Area of the study:** Tirupur district.

- **Sampling technique:** Simple Random Sampling
- **Data collection:** Primary and secondary data
- **Sample size:** 150
- **Tools used for analysis:** ANOVA

REVIEW OF LITERATURE:
1. **K.L. Choy, Stuart C.K. So, John J. Liu et al(2022): Improving logistics visibility in a supply chain: an integrated approach with radio frequency identification technology.** To meet this demand, the Integrated Logistics Information Management System (ILIMS), a logistics information hub that uses Radio Frequency Identification (RFID) technology, is presented in this paper. 3PL businesses can benefit from streamlined business processes and improved tracking capabilities with ILIMS.

2. **Ylva Blomkvist Leo and Ullemar Loenbom(2020): Improving supply chain visibility within logistics by implementing a Digital Twin- A case study at Scania Logistics.** This study seeks to ascertain how the implementation of a Digital Twin—a comprehensive virtual representation of the physical assets that comprise the logistics system—can benefit businesses in terms of enhancing their logistical supply chain visibility. The study's conclusions suggest that digital twins could help businesses improve their analytics, diagnostics, forecasts, and physical asset descriptions.

Data analysis and interpretation:

Table No.: 1 (Simple Percentage Analysis)

	Table showing the customer service representatives' responsiveness and helpfulness.		
1.	Most of the time	84	56
2.	Some of the time	47	31.33
3.	Seldom	19	12.66
4.	Never	-	-
	Table showing the type of logistics services does company primarily provides.		
1.	Transportation	62	41.33
2.	Warehousing	29	19.33
3.	Inventory Management	32	21.33
4.	Freight forwarding	27	18
	Table showing the specific type of data most crucial for real-time visibility.		
1.	Shipment tracking	49	32.66
2.	Inventory levels	40	26.66
3.	Order Status	27	18
4.	Delivery times	34	22.66
	Table showing challenges faced in achieving optimal real-time data visibility.		
1.	Technical issues	49	32.66
2.	Data security concerns	52	34.66
3.	Integration challenges	37	24.66
4.	Lack of resources	12	8
TOTAL		**150**	**100**

The above table 1 indicates that the majority of the respondents, 56% most of the time use the customer service representatives responsiveness and helpfulness, 41.33% of the respondents provide transportation services, 32.66% of the respondents use shipment tracking for real-time visibility, most respondents face technical issues and data security concerns in achieving optimal real-time data visibility.

Table No: 2 (ANOVA)

ANOVA					
Adapt changes					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	51.339	2	25.669	72.119	.000
Within Groups	52.321	147	.356		
Total	103.660	149			

(NS - NOT SIGNIFICANT, S - SIGNIFICANT)

TABLE SHOWING ANOVA TEST RESULT OF LOGISTICS SERVICE ADAPT TO CHANGING BUSINESS NEEDS AND REQUIREMENTS *CUSTOMER SERVICE REPRESENTATIVES RESPONSIVE AND HELPFUL.

HYPOTHESIS:

H0: There is no significant relationship between logistics service adapting to changing business needs and requirements and customer service representatives' response and helpful

H1: There is a significant relationship between logistics service adapting to changing business needs and requirements and customer service representatives' response and helpful

INTERPRETATION:

In the above table 2 shows that the significant value is .000 which is less than 0.05. So the null hypothesis is rejected and the alternate hypothesis is accepted. Hence it is concluded that there is a significant relationship between logistics service adapting to changing business needs and requirements and customer service representatives' response and helpful

Findings of Simple percentage analysis:

The majority of the respondents 56% most of the time use the customer service representatives' responsiveness and helpfulness, 41.33% of the respondents provide transportation services, 32.66% of the respondents use shipment tracking for real-time visibility, major respondents face technical issues and data security concerns in achieving optimal real-time data visibility.

Findings of ANOVA:

The test results show that the calculated significant value is lesser than 0.05 which is considered to reject the null hypothesis Hence it is concluded that there is a significant relationship between logistics service adapt to changing business needs and requirements and customer service representatives' response and helpful

SUGGESTIONS:

1. Invest in advanced tracking technologies such as GPS, RFID, and IoT sensors to enable accurate and real-time monitoring of shipments, inventory, and assets throughout the supply chain. These technologies provide granular visibility and contribute to more informed decision-making.

2. Ensure seamless integration of various logistics systems and platforms to create a unified and interconnected data environment. This integration enhances the flow of real-time information across different stages of the supply chain, eliminating data silos and improving overall visibility.

3. Embrace cloud-based solutions for storing and processing real-time data. Cloud platforms offer scalability,

accessibility, and the ability to handle large volumes of data efficiently. This facilitates easy sharing of information across departments and enables stakeholders to access data from anywhere.

CONCLUSION

The efficacy of logistics services being studied with an emphasis on real-time data visibility highlights the crucial role that cutting-edge technology plays in transforming and streamlining supply chain operations. A thorough analysis of the incorporation of real-time data visibility reveals that this technical advancement is a revolutionary force that presents hitherto unseen insights and chances for advancement. The results highlight how to improve overall supply chain efficiency, businesses must strategically invest in cutting-edge tracking technologies, smooth system integration, and predictive analytics. To fully reap the benefits of real-time data visibility, the report also emphasizes the significance of organizational preparation, personnel training, and strong cybersecurity safeguards. As companies maneuver through the intricacies of today's logistics environment, the knowledge obtained from this research.

REFERENCE

1. C.M. Alan (2022) Nigerian Online Shopping Provides Some Evidence of the Demographic Variables Affecting Perceived Service Quality. Journal of Social Sciences and Humanities Pertanika,26(3).
2. Y. Feng (2021) Impact of service quality on customer satisfaction: the Ethiopian Telecom point of sales case study. The University of Addis Ababa School of Commerce.
3. X. Liu, D.B. Grant (2020) Investigating how customer satisfaction in the Nigerian banking sector is impacted by service quality. KIU Humanities Journal, 2(2 (A)), 163–175.
4. I.G. Saura, D.S. Frances (2020) Test of a multilevel model of intermediate linkages: Effects of high-performance work systems on individual- and branch-level performance (C.M.Alan, 2022)

******