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An Investigation into Warehousing and Logistics Management Within Logistics Industry at Chennai

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ABSTRACT

The research is based on "Warehousing and Logistics Management in logistics industry at Logistics Industry. The importance of warehousing and logistics management in the contemporary supply chain cannot be overstated as it directly affects the movement of the goods, costs, and customer satisfaction. It provides multimodal logistics services which include Inland Container Depots (ICDs), Container Freight Stations (CFSs), and sophisticated warehouse management systems. The research focuses on how Logistics Industry's warehousing activities influence the effectiveness of the entire supply chain with respect to inventory control, order fulfilment, storage control, and the use of multimodal transport to minimize transit times and costs. The study also assesses how logistics technology such as automation, RFID, GPS tracking, and warehousing management systems (WMS) contribute to logistics performance. The research also notes some specific problems such as lack of space, inventory mismatches, and frequent changes in policies and provides suggestions to address these problems such as increasing automation, using more multimodal transport, and applying artificial intelligence to anticipate demand. The study provides significant suggestions on the improvement of logistics operations and the competitiveness of the firm on the international level.

Keywords: Warehousing, Logistics, Inventory Management, Automation, Multimodal Transport.

INTRODUCTION

Warehousing and logistics management are core functions of any supply chain today, enabling the flow of goods from the manufacturer to the end user. The proper facilitation of warehousing contributes towards inventory management, order fulfilment, and cost effectiveness, while logistics deals with the transportation and distribution of products in a timely manner. Businesses today aim towards faster deliveries, lower operational costs, and better visibility of their supply chains. The achievement of these objectives requires the application of technology, automation, and multimodal transport in logistics management.

Logistics Industry is one of the top logistics companies in India. They offer container freight stations (CFS), inland container depots (ICD), and multimodal transport services which tremendously improve the efficiency of supply chains. Logistics Industry integrates rail and road with ports, helping them to lower logistics costs and move cargo seamlessly. As demand for tracking, automation, and digital solutions increase, it's important to analyze how Logistics Industry is performing with their warehousing and logistics systems.

The purpose in this case is to analyze the efficiency of Logistics Industry's warehousing and mitigation systems with respect to inventory control, degree of automation in the warehouse, transport efficiency, and progress in the digital transformation agenda.

The research will find out the problems encountered within the logistics operations, evaluate the consequences of the technological advancement on the performance, and identify the possibilities of optimization and cost minimization. Through analyzing Logistics Industry's logistics system, this study will provide best practices, new directions, and proposals to enhance operational efficiency. These results will inform logistics firms, government agencies, and supply chain managers about the changing configuration of warehousing and logistics services.

REVIEW OF LITERATURE

Barney (1991) has examined that resources can be classified into organizational capital resources, physical capital resources and human capital resources. Capabilities can be defined as the skills a firm needs to take full advantage of its assets. Capabilities are complex bundles of individual skills, assets and accumulated knowledge exercised through organizational processes that enable firms to co-ordinate activities and make use of their resources (Olavarrieta & Ellinger, 1997).

Tritos Lao sirihongthong (2013) has illustrated that Organizations act in a way that fulfills both customer and legal requirement. Pressures from these two parties influence the adoption of environmentally responsible behaviour Organizations have institutionalized reverse logistics practices because of internal and external pressures.

Mentzer et al(2001) have stated that Logistics capabilities also play an important role in boundary spanning interfaces between internal functional areas and between the focal firm and supply chain partners. Coordinated with the marketing function, logistics can differentiate product and/or service offerings to fulfill unique customer requirements. When joined with production, logistics offers cost and investment reductions while maintaining service levels. Logistics capabilities also help the firm cooperate with supply chain partners (i.e. suppliers, distributors, and other intermediaries) in coordinating supply and demand flows to deliver customer value and, in return, in sharing benefits. Thus, logistics is an integral part of the larger concept of supply chain management.

Lied and Miller (2002) has stated Third-party logistics providers are companies that offer complete or partial logistics services for their customers through years of development third party logistics provider is accepted by most of business there are surveys which exposed that 77 percent of fortune manufactures employ multiple providers for various kinds of services. The companies that using third-party logistics half of been using the services for more than 5 years.

Aicha Aguezzoul (2009) has examined that the outsourcing of logistics activities to third-party logistics service providers (3PL) has become a common practice by many companies. The majority of research in this field is of exploratory type and is mainly focused on reasons, benefits, and risks to work with the 3PL as well as the role of those in supply chain management. This paper presents a literature analysis on 3PL selection and evaluation. This selection is a very complex process that depends on several factors. The selection criteria evolved a lot these past years and the 3PL have currently diversified by offering various services and by ensuring various activities. As for the methods of 3PL evaluation, they range from simple analytical techniques to multicriteria methods. A comparison of these methods in terms of advantages and disadvantages is also presented in this paper.

Braglia. Andrea Grassi And Rober To Montanari (2017) have stated that warehouse constraints, cost of cost production, safety and Environment objectives, strategies of maintenance adopted, logistics aspects of space parts classification is thus defined with respect to multiple attributes on Warehouse policy matrix is defined to link the different classes of spare parts with the possible warehouse management policies so as to identify the "best" control strategies for the spare stock.

OBJECTIVES OF THE STUDY

- 1. To understand logistics management practices and their implementation at Logistics Industry.
- 2. To understand the warehousing operations at Logistics Industry
- 3. To analyze the relationship between organizational performance and logistics performance.

RESEARCH METHODOLOGY

The portion of the research design applicable to this study was descriptive research design. Descriptive research design was appropriate for both data collection and analysis. The sampling technique that was used was convenient sampling, with a total sample size of 120 respondents, which included middle-level managers, supervisors and employees. There were two methods of data collection: primary data were collected using a structured questionnaire, and secondary data by literature review, journals, websites, books, industry financial statements, and interviews with people in each department. The study is limited, and was limited to being only 120 respondents. The study was limited to the logistics industry in Chennai, and thus many generalities cannot be drawn because of the limited sample size. Data were analyzed using percentage analysis, and presented using bar charts and pie charts. The testing of statistical data was conducted by using the SPSS software and involved tests such as the Chi-square test or analysis of variance (ANOVA) to test the hypotheses. The study followed an objective approach, used structured and pre prescribed questions. The results of the study we would expect to change or influence perceptions and expectations of warehousing and logistics management in the organization.

DATA ANALYSIS AND INFERENCE

Table 1. Table Indicating cross tabulation effective tracking means customized order and implementing 3PL reduces transportation cost

H₀₁: There is no relationship between effective tracking means and implementing 3PL reduces transportation cost.

H₁₁: There is a relationship between effective tracking means and implementing 3PL reduces transportation cost.

Crosstab							
Count							
Implementing 3PL reduces transportation cost SA A N				Total			
					Effective tracking means	Ordering Date	0
Shipment Date	12	27	3	42			
Middle of the Delivery	12	3	3	18			
Delivering Date	9	9	12	30			
Total		33	54	33	120		

Table 2. Table Indicating Chi-Square Tests Effective Tracking means Customized Order and implementing 3PL Reduces Transportation Cost

Chi-Square Tests						
	Value	df	Asymptotic Significance (2- sided)			
Pearson Chi-Square	41.051ª	6	.000			
Likelihood Ratio	48.734	6	.000			
Linear-by-Linear Association	3.926	1	.048			
N of Valid Cases	120					
a. 2 cells (16.7%) have expected count le	ess than 5. The minimur	n expected c	ount is 4.95.			

INFERENCE:

It is inferred from table 1 & 2, P value 0.0<0.05 so reject the null hypothesis. There is a relationship between effective tracking means and implementing 3PL reduces transportation cost.

Table 3. Table Indicating Descriptive Relationship Between Transportation Modes and Short Time to Replace Damaged Materials

 H_{02} : There is no statistically significant relationship between transportation modes and respondents opinion about there is a short time to replace damaged materials.

H12: There is a significant relationship between transportation modes and short time lead to replace damaged products.

Table 4. Table Indicating the Descriptive relationship between Transportation Modes and Short Time to replace Damaged Materials

Descriptive							
		N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Short time to replace damaged products	Roadways	24	2.13	.612	.125	1	3
	Railways	18	2.50	.514	.121	2	3
	Airways	75	2.08	.801	.093	1	3
	Waterways	3	2.00	.000	.000	2	2
	Total	120	2.15	.729	.067	1	3

ANOVA								
Sum of Squares		Df	Mean Sq	uare F		Sig.		
Short time to replace damaged products	Between Groups	2.655	3	.885	1.693	.172		
	Within Groups	60.645	116	.523				
	Total	63.300	119					

Table 5. Table Showing the ANOVA relationship between Transportation Modes and Short Time to replace Damaged Materials

INFERENCE

It is inferred from table 5 that P value is 0.172 which is > 0.05 so, so accept the null hypothesis. There is no significant difference between the different modes of transport and the respondents opinion on short time to replace the damaged goods.

Table 6.Table indicating the Various Tracking Methods Employed by the Respondents

S No	Particulars	Frequency	Percentage
1	Ordering Date	30	25.0
2	Shipment Date	42	35.0
3	Middle of the delivery	18	15.0
4	Delivering Date	30	25.0
Total		120	100.0



Figure 1.Figure representing the Various Tracking Methods Employed by the respondents

INFERENCE

From the above table of tracking means, 25% of respondents are from ordering date, 35% from shipment date, 15% from middle of delivery and 25% are from delivering date.

Table 7.Table representing respondents'	views on the Most Effective Mode of Transp	portation
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S No	Particulars	Frequency	Percentage
1	Roadways	75	62.5
2	Railways	18	15.0
3	Airways	3	2.5
4	Waterways	24	20.0
	Total	120	100.0



Figure 2.Figure representing respondents' views on the Most Effective Mode of Transportation

INFERENCE

It is inferred from above table that medium of transportation takes survey to the respondents according to that 62.5% are Roadways, 15% are Railways, 2.5 are Airways and 20% are only for Waterways.

RECOMMENDATIONS

The suggestions made to the industry are,

- The organisation can improve its multimodal transportation network by enhancing the connectivity between rail, truck and port capabilities to improve the efficiency of cargo movement.
- The organisation should implement more regular training initiatives to upgrade employee digital capabilities, especially with regard to warehouse automation and logistics management systems.
- The improved use of warehouse space can be facilitated with the introduction of automated storage and retrieval systems (ASRS), to limit manual errors and maximise throughput.
- The organisation should also improve real-time inventory tracking through the implementation of RFID, or barcode systems, to enhance inventory accuracy and mitigate losses incurred through mismanagement.
- Finally, LOGISTICS INDUSTRY should consider continuing to invest in environmentally sustainable logistics processes such as the use of electric vehicles, installation of solar panels and maximisation of lower emissions route planning.
- The organisation would benefit from implementing additional employee friendly initiatives, such as a rest area, ergonomic working spaces, and better safety (fire exit, alarms and extinguishers) strategies, which can also improve workforce productivity and limit accidents
- ✓ Following employee feedback, the organisation should also consider reviewing and enhancing its welfare amenities, such as clean drinking water and improved canteen amenity across all logistics hubs.
- The organisation may also consider reviewing its arms length employee appraisal and increment systems on a routine basis to ensure employees are being fairly rewarded for their effort, which can also promote improved motivation and limit turnover

CONCLUSION

The study of Warehousing and Logistics Management has shed light on the company's operational strengths and weaknesses in the supply chain framework. Being one of India's leading logistics companies, Logistics Industry has a robust structure of Container Freight Stations (CFS), Inland Container Depots (ICD), and multimodal transportation to retain cargo flow and storage. The study established that the organization has already embraced numerous digital, and logistics systems, but still has room for growth with a focus on investment in warehouse automation, real-time inventory controls,

and employee development. The findings also pointed out that transportation efficiency, delivery accuracy, and safety are significant challenges for both employees and customers.

In summary, they are poised to scale new heights in the logistics industry through embracing technology, elevating its infrastructure, and developing its workforce. With improved investment in warehousing and logistics, LOGISTICS INDUSTRY will enrich its margin of competitive advantage and position itself as an industry player in India's growing supply chain ecosystem.

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Author Contribution

Ms.P.Purnima designed the study, conducted data collection, conceptual framework, tested hypothesis by analyzing data and prepared the manuscript. Dr.M.Lavanya provided guidance on research design and methodology and contributed to critical revisions and final approval of the manuscript.

Conflict of Interest

The authors declare no conflict of interest in the publication of this research.

Ethics Approval

The study involves voluntary participation by respondents through informed consent.

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REFERENCES:

- ✓ Bowersox, D., Closs, D., and Cooper, B.M. (2007). Supply Chain Logistics Management. New York: McGraw Hill.
- Delfmann, W., and Gehring, M. (2003). Successful Logistics through IT. Supply Chain Forum: International Journal, 4 (1), 51–56.
- Esper, T. L., Fugate, B. S., and Davis-Sramek, B. (2007). Logistics learning capability: sustaining the competitive advantage gained through logistics leverage. Journal of Business Logistics, 28 (2), 57–82.
- ✓ Francis, G. H., and Waiganjo, E. (2014). Role of Supply Chain Practices on
- ✓ Customer Satisfaction in the Printing Industry in Kenya: A Case Study of Morven Kester East Africa Limited. International Journal of Academic Research in Business and Social Sciences, 4 (10), 128–143.
- ✓ Fugate, B.S., Mentzer, J.T., and Stank, T.P. (2010). Logistics Performance: Efficiency, Effectiveness, and Differentiation. Journal of Business Logistics, 31 (1), 43–62.
- ✓ Logistics Bureau. (2022). The Future of E-Logistics in Supply Chain Management. Retrieved from www.logisticsbureau.com
- Deloitte Insights. (2023). Digital Transformation in Logistics and Supply Chain. Retrieved from www.deloitte.com
- LOGISTICS INDUSTRY Official Website. (2025). Company Profile and Logistics Operations. Retrieved from www.gatewaydistriparks.com